

THE MILLING WORLD

AND

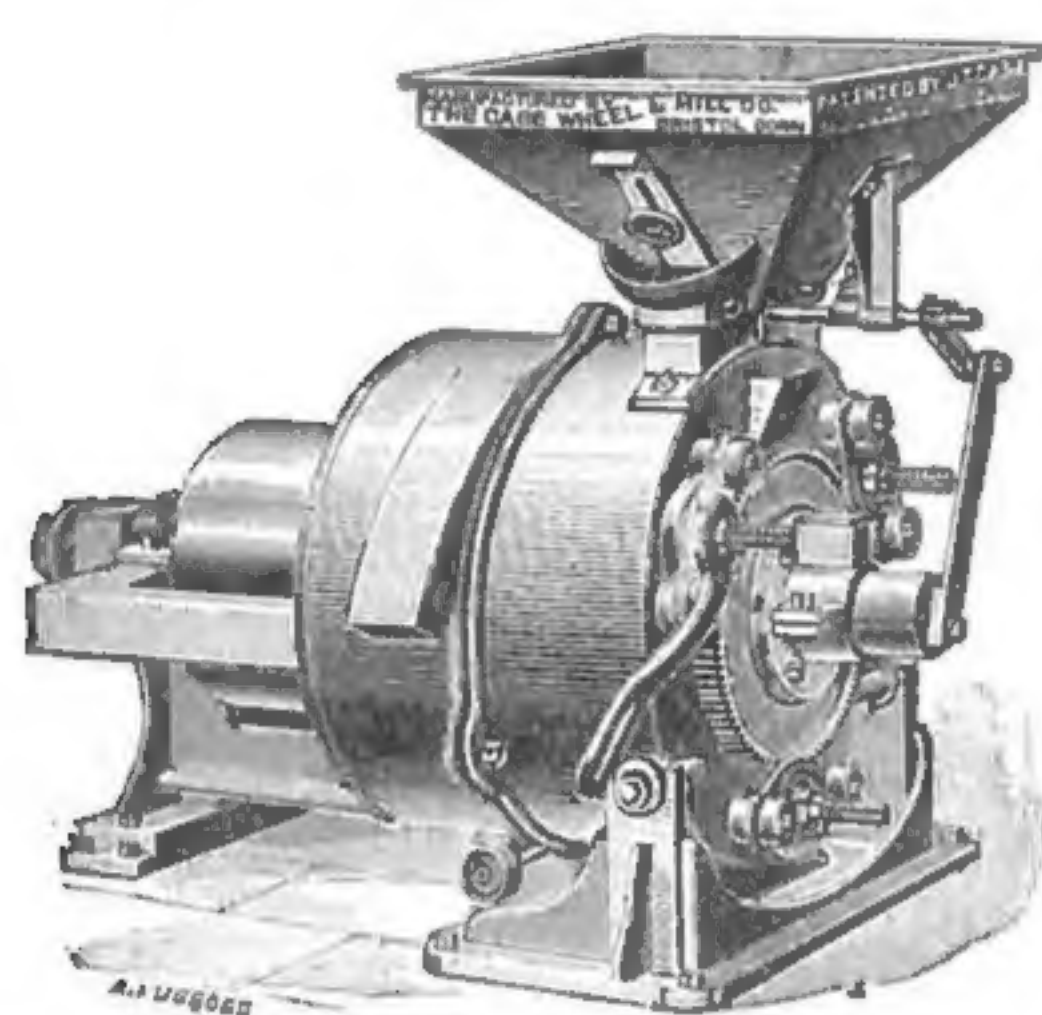
CHRONICLE OF THE GRAIN AND FLOUR TRADE

PUBLISHED EVERY MONDAY MORNING.

VOL. XXII. No. 3.

BUFFALO, N. Y., MARCH 17, 1890.

\$1.50 PER YEAR.



VICTORY OVER ALL OTHERS. SINGLE & DOUBLE VERTICAL GRINDING MILLS. (J. T. CASE'S PATENT.)

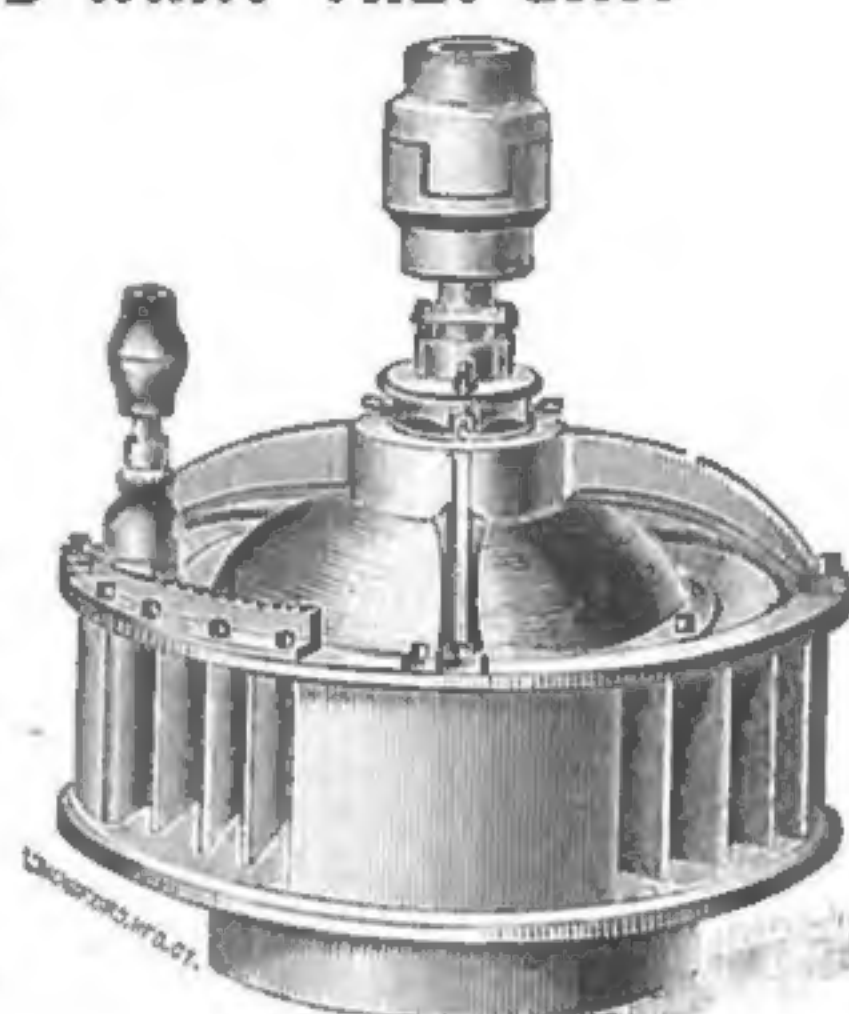
FACTS ARE MIGHTIER THAN ASSERTIONS. READ WHAT THEY SAY:

"Our 20-inch mill made by the Case Wheel & Mill Co. is in every respect satisfactory, easy to handle, and best results obtained of any mill in the country, with same quantity coal and power."—A. S. RUSSELL & Co., Meriden, Conn.
 "Superior to any mill in use."—GEO. WESTON, Bristol, Conn.
 "The best satisfaction in quantity and quality."—CHILD'S ELEVATOR, Manchester, Ct.
 "We take pleasure in recommending it."—GARLAND, LINCOLN & Co., Worcester, Mass.

SEND FOR CATALOGUE—ILLUSTRATED AND DESCRIPTIVE.

The Improved National Turbine Water Wheel

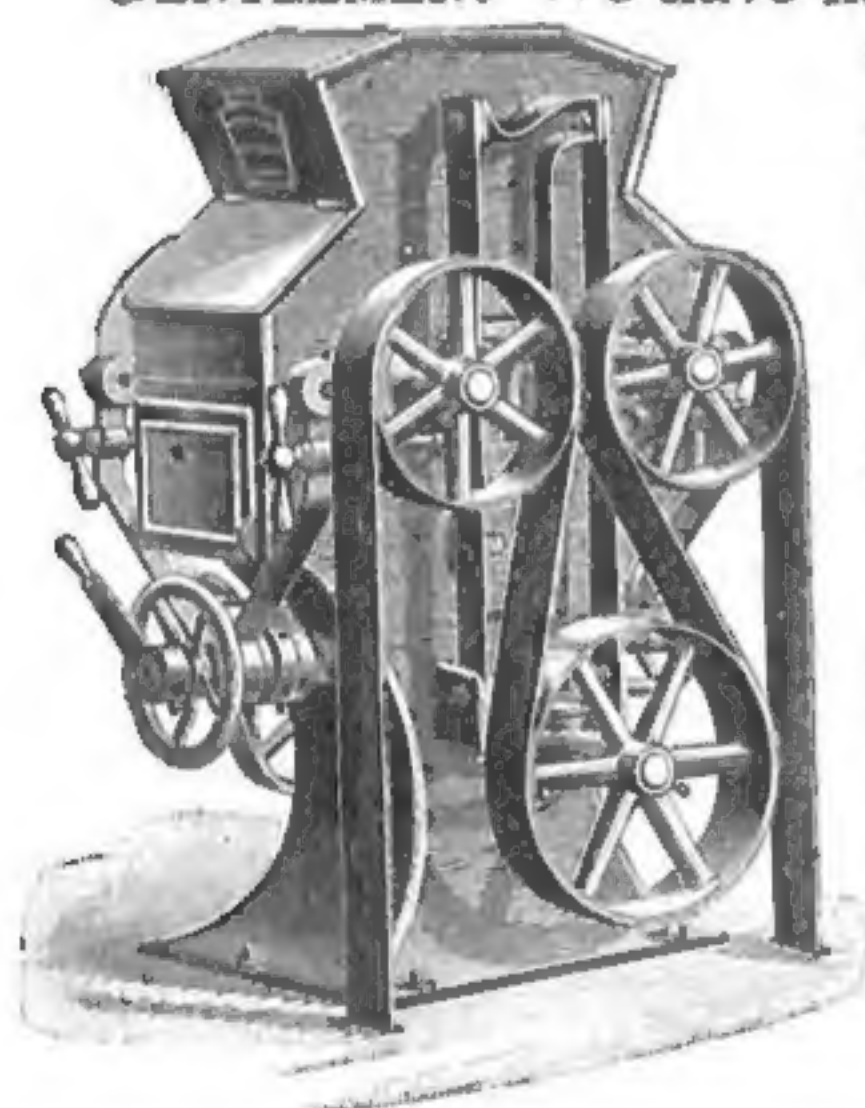
The Best for Economy; The Best for Durability; The Best for Power. ONE THOUSAND FIVE HUNDRED NATIONAL WATER WHEELS IN USE Prove that our Assertions are Supported by the Leading Manufacturers in the Country. Send for illustrated catalogue and prices to the manufacturers.



The Case Wheel & Mill Co., Bristol, Conn.

THE J. B. ALLFREE COMPANY, INDIANAPOLIS, IND.

NEW SHARON, IOWA, Feb. 10, 1890.



GENTLEMEN: We have had your mill in operation since November, 1889. It is an 80-barrel mill and put up in splendid style and finish. The *workmanship is perfect*, and in every respect, and all *our machinery runs with the greatest of ease*. Our engine is an "Allfree Automatic," and it is a "daisy." It *plays* all day long and takes *but little fuel*. We *would sooner have it than a Corliss*, and think it is *quite as economical*. Our entire mill outfit is first-class, and is made by *The J. B. Allfree Company, of Indianapolis, Ind.* The *shaker scalper* is a *success*, and *does better work than a reel scalper*, and runs easily with a 3-inch belt.

We wish all intending to build mills could pay us a visit, so that we could show them all the good points of our mill—for *to see is to be convinced of its superiority*. Our mill does good work, and we can say that we have had *no choke-up* and *no belt to change since we started*. We can *fully recommend the J. B. Allfree machinery* in every respect to millers wishing to build or remodel their mills.

Yours truly,

NEW SHARON MILL CO.,
R. D. HIGH, Manager.

BAY STATE IRON WORKS

—MANUFACTURERS OF—

Stationary, Cut-Off, Upright, Agricultural and Portable

ENGINES AND ALL KINDS OF BOILERS

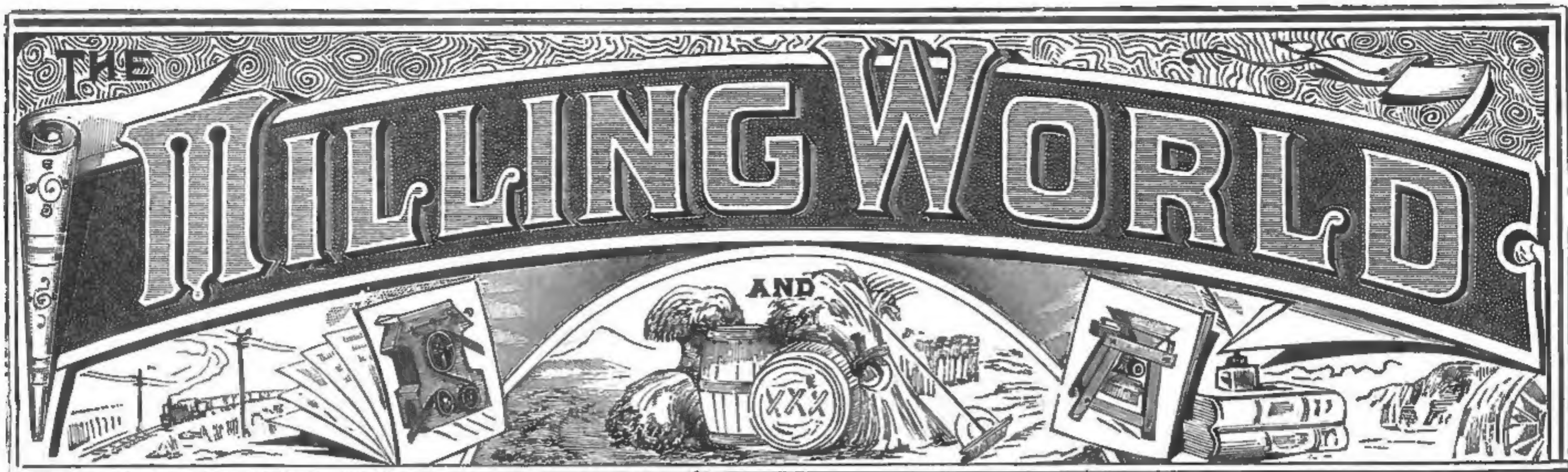
Steam Cranes, Hoisting Machinery, Etc.

NOBLE & HALL, ERIE, PA.

CASE.

CASE MFG. CO., COLUMBUS, O.
GENTLEMEN: If we were to build a hundred mills we
would not permit any other than the "CASE" roll to
enter them. They are the best roll on earth.
Yours truly,
W. C. MANSFIELD & CO.
CLEVELAND, TENN., AUG. 29, 1889.
W. C. MANSFIELD & CO.,
MERCHANT MILLERS,

CASE.



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ELEVATORS are multiplying in Buffalo like Hessian-flies in an Illinois wheat-field. What does it mean? Is the elevator business really profitable, despite the croaking? Is there to be an unusual call for storage in this city in the near future? Have the present owners and the builders of elevators no fear of the legislation proposed to crush the elevating trade? The situation is peculiar and inexplicable.

ACCORDING to late reports, the "cold snap" did not injure the advanced winter wheat, excepting in a few places where the plant had already jointed. All reports agree that the indications of insect pests are very marked, and the outlook is far from cheerful. It will be remembered that in Australia, on the crop just now coming into market, a very favorable start ended in disaster through insect pests. The same thing may occur with the American winter wheat crop this season.

THAT amusing ignoramus, who is trying to edit that amusing St. Louis "Merchant, &c.," and who does not know even enough to spell the words he tries to use in his amusing attempts at invective and vituperation, is of the opinion that somebody is dying to discuss some subject or other with him. He mistakes. He is not really a "rivet," he is merely a lead-headed "tack"-y of the genus White Trash. All the same, as Artemus said of the kangaroo, "he is an amoozin little cuss."

THE February fire-loss in the United States and Canada in February footed about \$7,400,000, and the milling and allied industries contributed about \$343,000 to the total. The February loss in 1889 was \$12,800,000, in 1888 it was \$11,213,500, in 1887 it was \$7,500,000, and in 1886 it was \$6,500,000. Evidently an "open" February is calculated to lessen fires in flouring-mills. The total loss for January and February, this year, was only \$16,566,000, against \$19,698,700 in 1889, and \$27,253,000 in 1888.

CANADIAN millers are felicitating themselves over the prospective increase of import duty from 50 to 75 cents a barrel on wheat flour. Now, with abundant crops the coming season, they ought to be able to make up for a part of the losses they have been suffering for several years. A large wheat crop in the Dominion in 1890 may mean great prosperity for the Canadian millers, while, with the increased duty on flour, a small crop will not injure them so badly as it would with the smaller duty on flour.

AMERICAN grain-growers and flour-makers, who may occasionally have a hankering for "free trade all around," should not forget that, with free wheat, for instance, it is quite within the possibilities that European wheat, in seasons of great abundance, might be shipped to the United States in quantities sufficient to "swamp" our markets. When vessels are ready to carry grain for ballast, some curious business changes are possible, and the wheat-growers of the United States have actually seen wheat carried from Baltimore to Europe as ballast. They have only to reverse the operation to get some idea of what would happen here in

case European wheat or other cereals were permitted to enter this country free of duty.

GERMAN milling writers seem to insist rather strongly that the past year really saw the creation of two really "revolutionizing milling machines," the Haggenmacher "Plansichter" and the Kreiss "Gegenflachensichter." Evidently the flour-makers of neighboring countries do not seem to view those two machines so enthusiastically as do the Germans, for the chief attention paid to them is paid in Germany. There are milling engineers and flour-makers, in other lands than Germany, who frankly assert that the Kreiss machine embodies one radical defect, severity of handling material, which incapacitates it for valuable service in sifting flour. Certain it is that, if either of these machines can answer half the claims of their inventors and advocates, it would require but a showing of their achievements to bring them promptly into general use. The Haggenmacher machine was worsted in a competition with the Geo. T. Smith Middlings Purifier at Louvain, Belgium, and both it and the Kreiss "Gegenflachensichter" must be excellent machines to hold their own with American machines built to do the same work.

A CORRESPONDENT calls our attention to the following quotation from a New York commercial journal: "The lot of the farmer is unfortunate indeed. Confronted on the one hand by low prices for what he produces, and on the other by high prices for what he uses or consumes, his situation is certainly very far from enviable." The paper from which that utterance is quoted is an importers' journal, owned and managed by importers, who are said to be unnaturalized foreigners. It is the policy of that journal to misrepresent everything where misrepresentation promises to help the free-traders, as the importers, who are middlemen of the worst class, wish to have manufactures stopped in the United States. The less goods are made here, the more must be imported, and that fact is what leads the free-traders to disseminate falsehoods like that quoted by our correspondent. The foreign journal he quotes from considers the United States a fit dumping-ground for foreign wares, and it is daily preaching free raw materials, free manufactured goods, free ships, free everything, utterly disregarding the value of developed home industries and forever charging everything to the protective tariff. The falsehood in the quotation is too plain to deceive well-informed persons. The farmer never had, under free trade, so cheap prices for all that he consumes as he has to-day. The lower prices for some of his produce are chargeable directly to world-wide competition, and not to the tariff. Free-trade Great Britain has impoverished her farmers until the most prosperous among them are less happily situated than the least prosperous among the farmers of the protectionist United States to-day. The foreigners in New York, Boston and elsewhere ask the farmers to vote for free trade, but they can never convince the American farmers that it would be wise to destroy the home market by destroying home manufactures, driving mechanics out of the country or into grain and meat production, and thus cutting their candle at both ends.

The DAWSON ROLL WORKS CO. FOUNDERS & MACHINISTS,

—MANUFACTURERS OF THE—

Dawson Roller Mills

—AND FURNISHERS OF—

CHILLED IRON ROLLS

WITH DAWSON PATENT CORRUGATION.

ALL STYLES OF FLOUR MILL ROLLS RE-GROUND AND
RE-CORRUGATED WITH ANY FORM OF CORRUGATION.

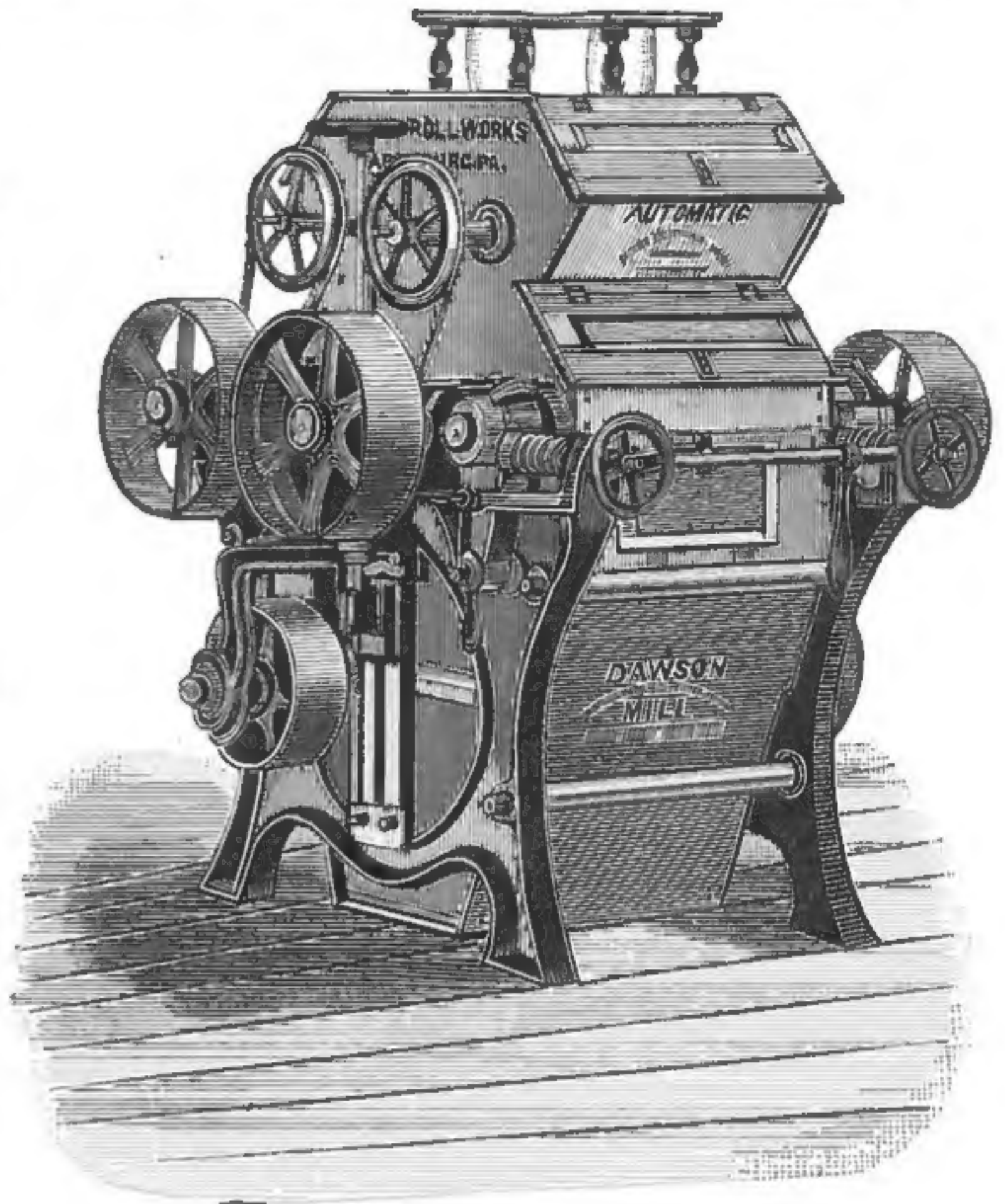
We have had large and extended experience in grinding and corrugating chilled rolls for milling, and have one of the largest and most improved plants in the country for this work, which enables us to meet the most exacting requirements of the trade promptly.

ORDERS AND CORRESPONDENCE SOLICITED.

DAWSON ROLL WORKS CO.

South and Short Streets,

HARRISBURG, PA.



The Cowles "Reliable" Sectional Wood Pulley

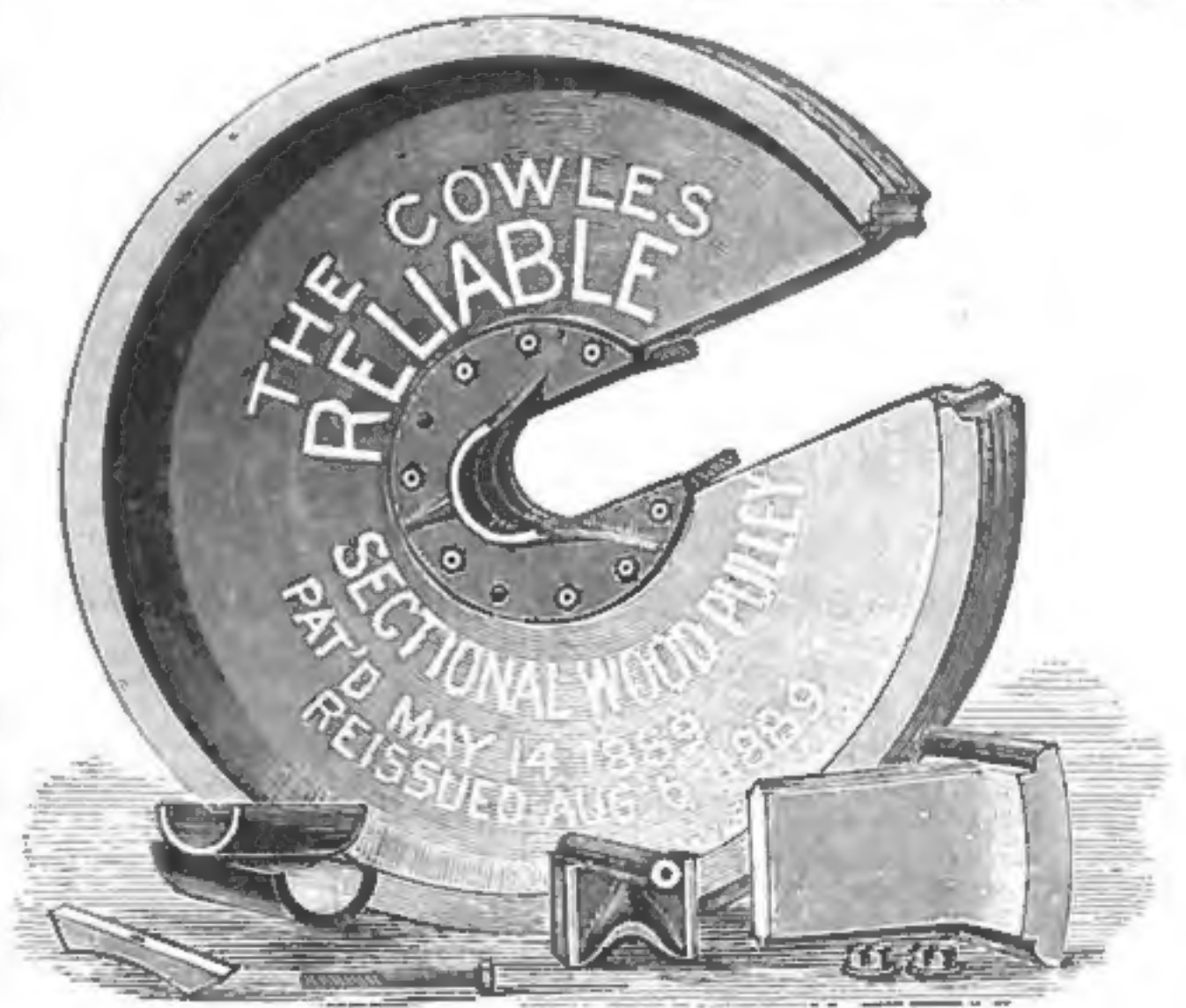
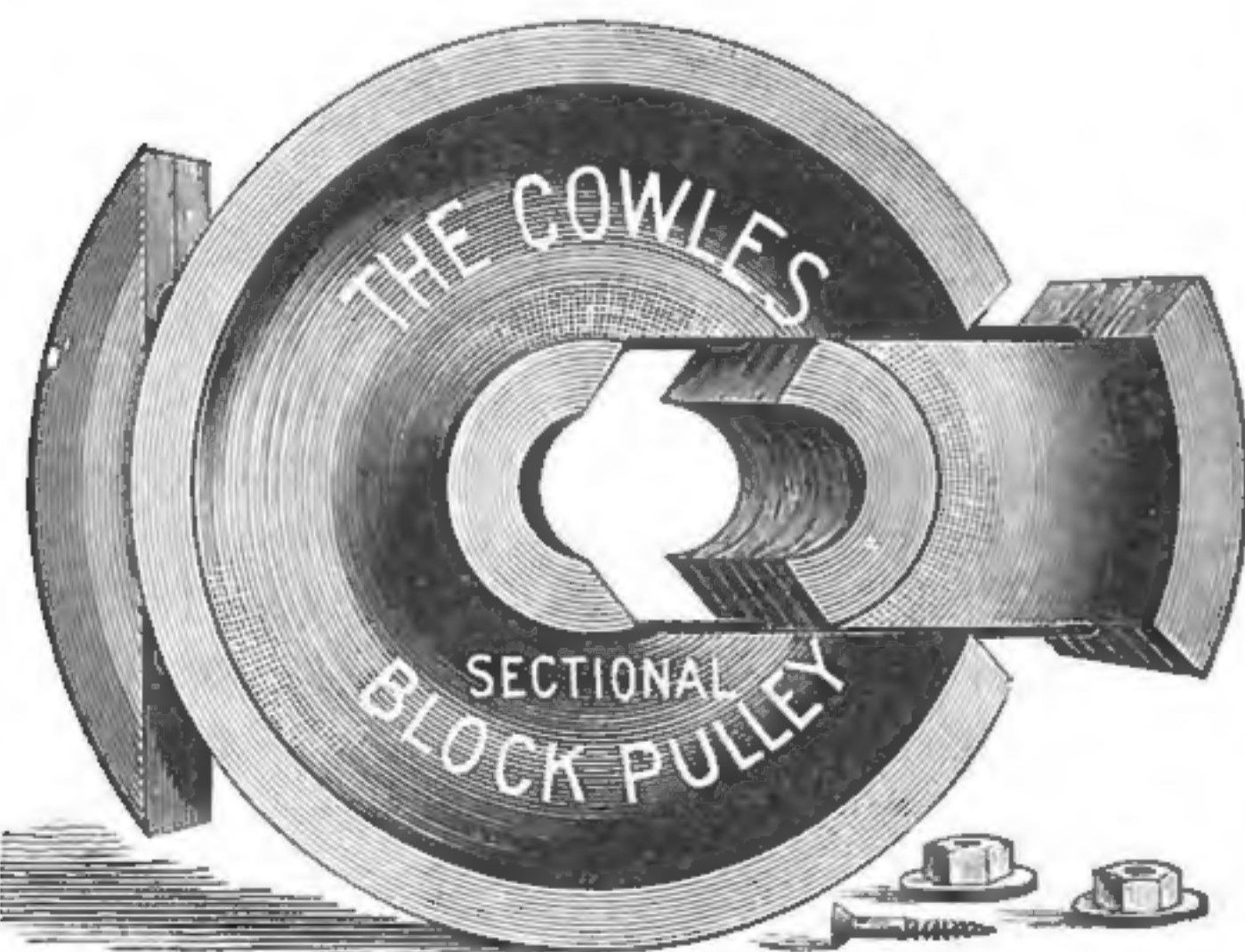


Web made of several layers glued together with grain crossing, and faced up on both sides. Iron flanges securely bolted to web. Rim put on after web has been trued up. Web and rim turned on inside and face, making perfect running pulley. Rim supported entire circumference. Positive self-gripping device for securing pulley to shafting, which is self-centering, and can not slip with wear.

A wooden rim pulley transmits from 30 to 50 per cent. more power with same belt than an iron one.

Two-thirds lighter than iron, bearings will wear longer and the expense for lubricant will be less.

Having solid web, there is no air resistance. The "Reliable" can be placed on shaft or position changed in one-fourth the time required with any other pulley.



EDWARD GERMAIN, SOLE MANUFACTURER SAGINAW, MICH., U.S.A.



PUBLISHED EVERY MONDAY. OFFICES: { Corner Pearl and Seneca Streets,
Over Bank of Attica.
McFAUL & NOLAN, - - - PROPRIETORS.
THOMAS MC FAUL. JAMES NOLAN.

SUBSCRIPTION.

In the United States and Canada, postage prepaid, \$1.50 Per Year, in advance; remit by Postal Order, Registered Letter, or New York Exchange. Currency in un-registered letter at sender's risk.
To all Foreign Countries embraced in the General Postal Union, \$2.25 Per Year, in advance.

Subscribers can have the mailing address of their paper changed as often as they desire. Send both old and new addresses. Those who fail to receive their papers promptly will please notify at once.

ADVERTISING.

Rates for ordinary advertising made known on application.
Advertisements of Mills for Sale or to Rent; Partners, Help or Situation Wanted, or of a similar character One cent per word each insertion, or where four consecutive insertions are ordered at once, the charge will be Three cents per word. No advertisement taken for less than 25 cents. Cash must accompany all orders for advertisements of this class.

Orders for new advertisements should reach this office on Friday morning to insure immediate insertion. Changes for current advertisements should be sent so as to reach this office on Saturday morning.

EDITOR'S ANNOUNCEMENTS.

Correspondence is invited from millers and millwrights on any subject pertaining to any branch of milling or the grain and flour trade.

Correspondents must give their full name and address, not necessarily for publication, but as a guarantee of good faith.

This paper has no connection with a millfurnishing house and aims to represent the trade without prejudice, fear or favor.

Address all communications

THE MILLING WORLD,
BUFFALO, N. Y.

Entered at the Post Office, at Buffalo, N. Y., as mail matter of second-class.

SITUATIONS WANTED.

Advertisements under this head, 25 cents each insertion for 25 words, and 1 cent for each additional word. Cash with order. Four consecutive insertions will be given for the price of three.

SITUATION WANTED.

Head miller with over 20 years experience want to make a change this spring. Address, A. MILLER, 67 Weaver Alley Buffalo, N. Y. Ad-4t

WANTED.

A situation to run a 50 to 100-barrel roller mill. Pennsylvania, New York, Ohio and Michigan preferred. Address MILLER, Box 75, Union City, Erie Co., Pa. 38

WANTED.

A situation in some flouring or grist mill, by a man who has had good experience with the buhr system. Can furnish best of references. Address, THOMAS H. NICHOLAS, DeRuyter, N. Y. 14

SITUATION WANTED.

A situation wanted by a stone and roller miller, 14 years' experience, to take charge of custom mill, or work as second in first-class roller mill. Address WILLIAM H. EATON, North Ridgeway, Orleans County, N. Y. 8

SPECIAL ADVERTISEMENTS.

Advertisements of Mills for Sale or Rent, Partners Wanted, Machines for Sale or Exchange, etc., etc., cost 1 cent per word, for one insertion, or 8 cents per word for four insertions. No order taken for less than 25 cents for one insertion, or 50 cents for four insertions. Cash must accompany the order. When replies are ordered sent care of this office 10 cents must be added to pay postage.

WANTED.

The address of Mr. Buhr Miller who was formerly a citizen of Prosperity removed to Adversity, and when last heard from was in Despondency looking for a job. By the will of his uncle Oliver he becomes heir to a modest fortune to obtain which he should address the FLENNIKEN TURBINE COMPANY, Dubuque, Iowa. (Exchanges please copy) Administrator.

MILL MACHINERY FOR SALE.

One No. 0 Standard Combined Separator, Smutter and Brush Machine; new, best make.
One 20-Inch Under-Runner Portable Mill, French Buhr Stone, capacity 10 to 12 bushels per hour; new, best make.
One 14-Inch Vertical Feed Mill; best make, new, a bargain.
One No. 6 Dustless Separator; new, a bargain.
One No. 1 Full Rigged Combined Dustless Separator; new, a bargain.
Four Corn Cob Crushers, right or left hand, driven from above or below, best make; capacity 40 to 60 bushels per hour.
Three No. 1 Corn Shellers, capacity 200 to 300 bushels per hour; new.
One No. 2 Purifier. New. Best make. A bargain.
One 20-Inch Portable Mill.
One 18-Inch Double Gear Portable Mill.
For particulars address, FRANK SMITH, care of THE MILLING WORLD, Buffalo, N. Y. 5tf

FOR SALE CHEAP.

One 36-In. Iron Frame Portable Mill, French Burr Stone, Used about 2 months.
One 20-In. Vertical Mill, French Burr Stone, Used about 30 days.
Three Pair 42-In. Old Stock Feed Stones.

FOR PARTICULARS ADDRESS,

SAMUEL CAREY, 17 BROADWAY, NEW YORK.

FOR RENT.

Clinton Mills, at Black Rock, Buffalo, for rent on reasonable terms, recently repaired and put in good order. Apply to CHAS. DANIELS, over 311 Main Street, Buffalo, N. Y. 6tf

FOR SALE.

Flour and feed mill, with water power and three run of stones, for sale cheap; also dwelling house and garden. Situated half a mile from depot on New York and New England R. R. For particulars, address, MRS. M. E. DOUGHTY, Green Haven, Dutchess County, New York. 2427

FOR SALE.

One-Hundred Barrel Roller Mill, in one of the best winter wheat sections of the country. Wheat brought to the door in wagons, and flour can be shipped in any direction by six railroads and river. Splendid home market, here and in Louisville. Also a Sixty-Barrel Custom Mill, roller, running full time on custom, and can hardly keep up. Paying well now, but satisfactory reason for selling. Either or both will be sold cheap. J. M. HAINS, New Albany, Ind. 263

WONDER which ones of the milling journals the Consolidated Roller Mill Company will select and pay to publish the Blodgett roller-mill decision in full?

ILLINOIS denies that her wheat was sufficiently advanced to be hurt by the recent cold snap. That is pleasant news, but, when it comes to Hessian-flies, Illinois "denies of it" not.

READ carefully the new advertisement of Mr. C. O. Bartlett, of Cleveland, Ohio, which appears in this issue. His steel elevator buckets and his belting are standard articles. Address him for illustrated circulars and all desired information.

WHAT has become of the Scandinavian Elevator Company, capital stock \$5,000,000, incorporated in Minnesota? Is it alive or dead? Has it given up the idea of trying to ship unsophisticated No. 1 Dakota direct to British mills? Has it been "gobbled up" by the Minneapolis powers, who hold it as a bar to other similar moves in the future?

WE take pleasure in calling attention to the new advertisement of Messrs. Noble and Hall, proprietors of the well-known Bay State Iron Works, of Erie, Pa., which appears on another page. This standard house manufactures stationary, cut-off, upright, portable and agricultural engines, and all kinds of boilers, steam-cranes and hoisting-machinery, and their whole line is characterized by excellence and durability. Address them for their latest illustrated catalogue. Correspondence with them will pay.

PROFESSOR J. Murray Case is giving the British milling public some very important and interesting points in milling in his series of excellent articles in the London "Millers' Gazette." Doubtless his contributions will create considerable discussion among his British readers, but who ever knew Mr. Case to back down from discussion or to get driven into a hole? Evidently he finds many things to condemn in British milling practice, and he does not hesitate to say so. His remarks on the quality of the English-made flours are pointed, and they go far towards confirming the generally unfavorable comments made upon them by all foreigners. It is reasonable to expect that some of the makers or bakers of those flours will try to walk over or sit down upon Mr. Case, but they will find the walking and sitting uncomfortable—mostly for themselves.

MILL-BUILDING, mill-repairing, mill-remodeling, mill-furnishing and mill-refurnishing go on uninterruptedly in the United States. The farmers cry that too much grain is grown, yet the acreage is increasing yearly. The millers cry that too many mills are in existence, yet others by the score are forcing themselves into the field. Well, it is a free country, and there is no law to keep a man from building a mill or planting more acres of wheat and corn, if he wish to do so, and the remedy is not visible. The fantastic proposition made by the Millers' National Association, two years ago, to "limit production by restriction of output," has failed, as every well-informed observer knew it would fail, and, with new mills coming in to increase the aggregate capacity enormously every year, and a decreased outlet for surplus stocks of flour in Europe, it is not easy to see in what way much improvement is to come in the immediate future.

PROGRAMME. OR FLOW OF STOCK.

J. MURRAY CASE.

VIII.

Last week I wrote with special reference to mills having small power. These small mills represent probably, in number, two-thirds of the mills of the world. The question whether they can put in rolls depends upon the simplicity of the system. If a simplified system requiring small power can not be furnished them, they must ultimately become idle. This represents the loss of many million pounds' worth of once very productive property. So every one who takes a step in the direction of the needs of these small mill-owners is performing a good act. The big ones are able to take care of themselves and to pay for best expert talent, so we may pass them by and devote this portion of the article to the demonstrated points in programming.

Selecting the numbers of cloth and wire used in separating is a part of the duties of him who makes the programme. To perform this work properly requires a knowledge of the various classes of wheat, the effect of the climate, the capacities of silks, etc. A mill built in the highlands of Scotland would admit of two numbers of cloth finer for the flour than one situated in the fogs of London. In the clothing of the scalpings for the breaks I find a great variation in Europe. Some mills have 12, 16, 20 and 24 cuts on the third, fourth, fifth and sixth breaks; others have 24, 28, 30 and 36 cuts for the same breaks. Now both these numbers are not right; they are both extremes. The former will make too much chipped wheat, the latter too little good middlings and semolina; but of the two extremes, in large mills, the former would be by far preferable, because a remedy might be had in re-scalping and sending the "chips" to a special break. The mills which make the largest percentage of high-grade flour are those which produce the most large semolina, as that class of stock can be made perfectly free from fiber. It is from such stock that the fancy Hungarian patents are made.

Upon the general system of correct programming I can say most in least space by presenting a number of rules which I think have been clearly proved. 1. In a six-break mill never send the chop from the first, second and sixth breaks along with the third, fourth and fifth breaks. The first is black flour; the second is granular, but very dark; the sixth is both dark and soft. If mixed before bolting, the whole mill is contaminated. 2. Never mix bran or last-reduction middlings with those produced by the breaks in advance. 3. Never mix second middlings with those from the breaks, except in very short mills, where it can not be avoided. 4. Never mix bran or second-germ stock with tail-sheets and second middlings of a granular quality. 5. Never mix the tails of purifiers handling coarse stocks with those of purifiers handling fine stocks. 6. Never mix very coarse middlings with very fine and attempt to grind together. 7. Do not undertake to use purifier on any stock finer than No. 0. 8. Make no returns.

Each one of these rules might become the subject of a long article, and the reasons given why the rules are correct. The fundamental thought in all of them is to keep separate the pure from the impure and the branny from the granular material. It will be proper for me to point out how these rules are often violated. Granular stocks not infrequently become mixed with branny stock from the tails of the purifiers. They have been clothed too fine or have the cloth filled up, or the rolls are not properly set, and a large amount of middlings goes over the tail, thence into a branny stock, and finally to the pollard bin. The way good stock frequently becomes mixed with poor stock occurs from sending the second middlings along with the second germ and bran middlings. The one is a fine white material, the other a coarse, dark, branny material. The system of shaking trays just above the purifier-riddle not unfrequently steals a large amount of fine white middlings, and mixes it with bran and fiber. The gravity purifier is a great thief on all fine stock, unless it is supplied with blast so light as to do but little good.

There is nothing so treacherously deceptive and ruinous

to the miller as the mixing of fine middlings with coarse pollard, and there is no fault so common. The bran covers up the middlings so that they are not perceptible, except on careful inspection or sifting, which is too much neglected. If you are not satisfied with your yield, take a pound of fine and coarse pollard, sift it over a cloth that will pass the middlings, if any, and from this estimate how much of it is made in a day, and you may be astonished to find that your loss from an unexpected source, which would take but five minutes to discover, really amounts in the year's run to more than all you have made. These remarks of course apply only to those whom they will fit; and there are some, not in England, but over in the United States and Canada, who, after reading this, will get out their sieves.—*London "Millers' Gazette."*

COTEMPORARY COMMENT.

Another scheme to help the poor, dependent farmer has come to light. A Dakota gentleman is urging Congress to relieve the farmers by paying them a bounty of 15 cents per bushel for all wheat exported from this country. This is an excellent scheme—to kill.—*Chicago "American Miller."*

The inter-state law is confessedly a failure, and even those who forced it into being are now trying to reshape it and remold it so that it may be less offensive to the people, who are likely to vote as they feel and hold the authors of the law responsible for its unfortunate results. But the only way to amend a bad law is to cut it off right behind the ears. Snipping the tail will not make it any better; it is more likely to make it worse. Let reason, instead of prejudice, let fairness, instead of malice, dictate the legislation that shall control the railroads.—*New York "Indicator."*

A study of the results of Iowa's railroad policy during the last few years can hardly be gratifying to its advocates, unless it be granted that the aim and object has been to cripple the railroad industry of the State and impair its condition.—*New York "Chronicle."*

It is not a little singular that, in view of the statements made from time to time in the opposition press, and the efforts of gentlemen like Mr. Wiman and his admirers to impress upon the people that there is a large element in Canada inclined toward a closer union with the United States that must necessarily interfere with our connection and relationship with the mother country, that no one has yet been found to rise in his place in Parliament to voice this opinion, and we are not aware that the question has been treated to any extent on the hustings to afford us any idea on which side any important section of Canadians may rank themselves.—*Montreal "Journal of Commerce."*

A EUROPEAN VIEW OF WHEAT.

Writing on the conditions and prospects of wheat, Dornbusch says: In my opinion future costs of wheat production will be increased from their present amount, and, consequently, supplies of wheat will have to be drawn from a widening area and will only be obtainable at some substantial advance on present rates. Ten years have gone out of the twenty-five that Mr. Clare Sewell Read allowed for America to fall out of the ranks as an underseller of wheat against the English farmer. And it may be said already that foreign competition has ceased to be the main cause of the extreme cheapness of wheat in the English markets. Mistrust and poverty have made the English farmer himself the great underseller in all our exchanges. It is the English farmer who has pulled down the world's market fabric. However, whatever be the cause of ultra-cheapness, the fear of falling further has been, as a demon of the market, exorcised. Which of the wheat-producing countries are producing more than they did ten years ago?

America, in 1890, has but about the same wheat area as in 1880. Canada, making considerable promises in recent years, has not fulfilled them in respect to exporting wheat. Egypt sends now but trifling quantities. Spain is no longer represented as a source of supply for wheat or flour. France, which once forwarded much best quality flour to the United Kingdom, scarcely forwards now a sack. Germany still

sends of its best wheat perhaps 100,000 quarters in the year, but Baltic supplies are probably not a tenth of what they once were. India is one of the new great powers of wheat supply, but has not advanced as a source in the last three years; moreover, about half of India's shipments do not come to the United Kingdom. Australia has to be reckoned with. Advance, Australia! You are a wheat seller to England of perhaps 500,000 quarters in your best seasons! Russia's statistics do not go back many years. The 1889-90 exports are not expected to equal those of the previous two seasons. Other countries, clumping together Persia, La Plata, Chili, etc., do increase their wheat shipments, but not to an important extent. England, lastly, has considerably diminished its wheat area.

Hands all around—all together, the world's wheat supplies to the United Kingdom in the last ten years have only just about balanced ten years' demand, nor are the world's wheat reserves increased! Looking at the other side of the medal, at the increased consumption of wheat in the last ten years, what do we see? America, at home, is eating more, it is stated to the extent of 8,000,000 quarters. The United Kingdom now calls for fully 18,000,000 quarters of wheat and flour, say 4,000,000 augmentation, in ordinary seasons. France now yearly buys of wheat, 2,000,000 to 3,000,000 quarters, more than was usually the case ten years ago, always putting aside the special imports following the woeful harvest of 1879. Other Continental buyers, Belgium, Holland, Italy, Switzerland, Portugal, etc., together form a great wheat-buying power that scarcely existed ten years ago. As a summary, one may say Europe wants and takes all the wheat, the barley, the oats, the potatoes, the seeds that its own soil grows, supplemented by the surplus production of other countries. The year eats up the year!

AMERICAN. AFTER ALL!

Americans have read with interest the alleged invention of an artificial silk by a Frenchman, who displayed his supposed invention at the Paris Exposition last year. It turns out that the invention is an old one, and that it is an American invention. Says the "Scientific American" of March 8, 1890: "The recent development of the production of artificial silk by M. De Chardonnet, in France, has excited much interest. We have received several communications from Mr. David Baldwin, of Midland Park, N. J., who, as far back as 1871, had worked in the same direction. He claims to have succeeded in producing a cellulose fiber which he combined with tannic acid and other substances in his attempt to increase its tensile strength. Four or five years ago Mr. Baldwin made known his project to a silk manufacturer, Mr. Thomas Holt, who, not being a chemist, did not care to experiment in that direction. The matter therefore lay in abeyance. Now France comes forward as the fatherland of an invention apparently conceived in America. The story is an old one. An inventor must perfect his invention and patent it to obtain the recognition of the world. As a matter of history, we feel that the above is an interesting statement of facts."

NET RESULTS IN IOWA.

Legislation designed to kill the railroads is having its full effect in Iowa, the State which has gone to the extreme in this suicidal policy. The report of the Iowa Railroad Commission for 1889 shows that, out of 22 roads reporting the relation between their charges and their net earnings, 12 have failed to earn enough to meet their ordinary fixed charges, not to speak of dividends on their share capital. The total deficit on these 12 roads amounts to \$574,642. The other ten have an aggregate surplus, above operating expenses, interest, rentals and taxes, of \$1,849,558. Of this latter amount \$1,335,149 is contributed by one road, namely the Chicago & Northwest. Taking this out, the surplus for the other nine is only \$614,409, while 12 roads had an aggregate deficit of \$575,642; so that, excluding the Northwest, the remaining 21 roads did not quite earn enough to meet operating expenses and charges, leaving nothing whatever for

dividends on the large amount of stock represented. Nor is this result exceptional, the 1888 showing having been fully as bad. Is such a state of things flattering or satisfactory? Should it not lead to reflection and inquiry? Consider the matter from a purely selfish point of view. Have the people of Iowa anything to gain from a policy which produces such results? Will it promote their welfare or tend to the development of the State's resources? Remember how important a part railroad operations play in the State's industrial activity. The cost of railroad investments in Iowa in 1888 stood at \$276,750,000. The roads earned in 1889 only \$37,000,000, of which over \$25,500,000 went directly out in operating expenses. Over \$14,000,000 was distributed in wages alone, and employment was given to 24,642 men. The amount of taxes paid in Iowa was \$1,108,831, which compares with \$1,060,572 the year before, and only \$591,848 in 1880. Is it wise or politic to cripple an extensive industry like this, affecting directly and indirectly so many other industries? Note the effects already apparent. New construction practically at a stand-still; the roads forced to reduce expenses; train service cut down; the number of employes diminished (in 1888 the number was 30,236 against the 24,642 for 1889), and the aggregate amount paid in wages greatly lessened. What reason can there be for forcing the issue any further? The commission's report claims that 12 miles of new road were laid in the State in 1889, "showing that there are still persons who are not afraid to invest in Iowa." Of course the fools are not all dead yet. Some are living to demonstrate that plain fact in Iowa!

TO TURN WOOD INTO BREAD.

Science has already enabled man to extract fiery beverages and many other things of more or less value from wood, and it is now proposed to go a step further and produce bread from wood. In an address recently delivered in Heidelberg, Germany, by no less eminent an authority than Victor Meyer, it is announced "that we may reasonably hope that chemistry will teach us to make the fiber of wood the source of human food." What an enormous stock of food, then, will be found, if this becomes possible, in the wood of our forests, or even in grass and straw. The fiber of wood consists essentially of cellulose, $C_6H_{10}O_5$. Can this be made to change into starch? Starch has exactly the same percentage composition, but it differs very much in its properties, and the nature of its molecule is probably much more complex. Cellulose is of little or no dietetic value, and it is not altered, like starch, in boiling water. It really gives glucose when treated with strong sulphuric acid, as is easily shown when cotton-wool, which is practically pure cellulose, is merely immersed in it. Starch gives the same product when boiled with weak acid. The author further quotes the researches of Hellriegel, which go to show beyond dispute that certain plants transform atmospheric nitrogen into albumen, and that this process can be improved by suitable treatment. The production, therefore, of starch from cellulose, together with the enforced increase of albumen in plants would, he adds, in reality signify the abolition of the bread question. When the production of bread from wood is achieved, the farmer may hang up his hoe, and the miller may discard rolls and buhrs and employ the bucksaw and the requisite chemicals whenever a customer calls. Every mountain of sawdust in the world will be turned into crullers, crackers, pretzels, pies, bread, biscuit and cake, and none needs go hungry.

HUNGARIAN MILLING IN 1889.

The past year was one of the greatest difficulty for the milling industry, says the "Mueller-Zeitung," of Vienna, in an article dealing with the mills of Hungary. The retrograding tendency of wheat and flour prices, which continued without interruption during the first six months of the year, made the loss heavy to those mills which held large unsold stores, especially as, while wheat continually declined, the decline in flour preceded it so that a fair profit on the latter could not be secured. At the beginning of the second half

year the unfavorable outlook for the wheat crop brought on a rapid rise in prices, but this resulted in profit only to the few mills which had unsold stores of flour to dispose of.

The fact, remarks "Pester-Lloyd," that the condition of the Hungarian wheat crop first began to appear bad just before cutting time, while at the same period exceedingly favorable reports were received regarding the crops in France and England, and the stores of the old crop remaining in Hungary were large, made it appear probable that there would be no difficulty in getting grain enough for the transition from the old crop to the new, so that only a few mills equipped themselves with large supplies. The poor result of the harvest gave a basis for a strong bull movement in prices at the beginning of the crop year, but this movement was made more excessive by the precipitate buying of the mills.

The flour export to Great Britain was at a stand-still for a number of weeks or was carried on only at ruinous prices, and the disproportion between wheat and flour values, heightened by the decline of exchange and the rise in ocean freights, continued so steadily that the mills were forced to reduce their output, which they agreed to do for a period of eight months. If the favorable results did not materialize as it was hoped they would, the reason for it must be attributed to the mills which, irritated by the competition of the low-grinding mills in the home trade and by the policy of abstention in outside markets, did not at once change their selling policy.

For the reasons enumerated the business throughout both half years was a losing one to the Budapest mills, nor is there yet a return of a normal condition in which flour values bear a proportionate relation to those of wheat. The dividends which Budapest mills are in condition to pay for 1889 are in no sense a return from the business of milling, but result partly from the profits of commercial conjunctures and partly from the interest on their large reserve capital. These dividends, which are moreover to be considered in relation to the extraordinary figures of output for the year—the reduction in the Budapest mills of over 21,000,000 bushels of grain of a total value of £4,800,000—need not mislead observers as to the less favorable condition of the Budapest mills.

The Hungarian mills have weighty rivals in those of Germany, France and Italy, which are favored by a rebate tax, and they also meet with competition from the Russian, Roumanian and Belgian mills, while the flour export from Hungary to Switzerland, whose industry is protected by a high tax, is growing smaller and laboring under more difficulties each year.

THE OIL IN AMERICAN CORN.

Corn is rich in oil. To extract the oil from the corn, the grains were taken at the different stages of their growth, in order to ascertain the stage at which the largest amount of oil is present. The corn was carefully dried, after which it was removed from the cob, reduced to a coarse powder and percolated with petroleum ether to remove the oil. The youngest specimen tried contained one per cent. of its weight of oil. The amount gradually increased with the age of the corn, until the maximum was reached in that which was allowed to ripen fully and dry upon the stalks. The amount yielded by such corn was 3.16 per cent. The oil is said to reside entirely in the embryo or germ of the corn, and to prove this a portion of the corn was carefully deprived of its embryo, coarsely powdered and percolated with petroleum ether. No oil was obtained. The germs freed from all integuments and treated in the same manner yielded 22 per cent.

The oil was of a pale yellow color and had a somewhat thicker consistence than either cottonseed or olive oils. The odor was slight but peculiar; its taste not unpleasant, bland and oleaginous; its specific gravity 0.917. It is a fixed oil, belonging to the group of non-drying, and is well adapted for lubricating purposes. It is soluble in all proportions in ether, bi-sulphide of carbon, chloroform and benzine; very sparingly soluble in 95 per cent. alcohol, forming a milky

mixture when shaken with that body, which separates on standing into two layers, both of which are perfectly transparent. The oil readily saponifies with so weak an alkali as lime-water, and with potassa or soda it forms a white soap. A thin layer of the oil exposed to the air for several weeks did not show any rancidity and to all appearances remained unchanged. In this respect it compares favorably with the oils of rape seed and olive.

Upon strongly heating the oil emits characteristic smoky, irritating and very disagreeable vapors, somewhat similar to those produced in the heating of cottonseed oil. It therefore would not be tolerated as an adulterant of lard, because the odor developed upon heating would certainly betray its presence. Lard itself is decomposed at high temperatures, but the odor produced is entirely distinct from that produced when oil of maize is associated with it. It could not be used to adulterate olive oil, as it gives different results with all the tests for the identity of that body. With concentrated sulphuric acid it instantly darkens. Immersed in a freezing mixture of ice and salt it did not deposit a granular substance and remained nearly transparent, but became very notably thicker in consistence, so much so that it was scarcely mobile. The probability is that it consists largely of olein.

It is more easily absorbed by the skin than cottonseed or olive oils, and it is an excellent vehicle for external applications. It also dissolves camphor with more facility than those oils. Numerous preparations of the Pharmacopoeia were made by substituting oil of maize where cottonseed oil is directed, to ascertain whether it is capable of replacing that body. The results were very satisfactory in every case. In some instances its superiority over cottonseed oil was very well marked. In the preparation of ammonia liniment this feature was most prominent. The oil readily saponified on the addition of the ammonia water, forming a smooth, creamy mixture, which did not become curd-like or separate on standing, as is frequently the case with the officinal liniment of ammonia. Examined at the expiration of two months, no changes could be observed, and it was apparently as perfect as when first made.

The oil could be adapted to table use as a dressing for salads and could readily take the place of those oils now used for such purposes. Taken internally in the dose of a fluid ounce, it gives no medicinal effects other than those possessed by olive oil. It is said that this oil is already an article of commerce in some of the Western States. It is a by-product in the manufacture of starch. When corn is used as a source of that substance, it becomes an object to get rid of the oil-bearing germs, and this is done by the aid of machinery, which separates the starchy portion of the corn in one direction and the germs in another. The germs are then freed from adhering integuments, so far as practicable, and subjected to the action of steam, after which the oil is removed by the aid of hydraulic pressure.

MILLING PATENTS.

Among the patents granted March 11, 1890, are the following:

Frank H. Brewster, Escanaba, Mich., No. 422,908, a roller-mill, assigned to the Cochrane Roller Mills Co., same place. This mill comprises the combination, with the independent lever-bearings for the movable rolls, the screws flexibly connected to said lever-bearings, and the adjustable collars applied to said screws, of the sliding wedges connected to be moved in unison and mounted in guides on the frame between the lever-bearings and the adjustable collars, and a support or block guided to reciprocate with the screw and held from rotation, said block or support being interposed between the wedge and adjustable collar on the screw.

Nancy M. Harrison, Adair, Ia., No. 422,937, a flour receptacle and sifter.

Noah W. Holt, Manchester, Mich., No. 422,941, 422,942 and 422,943, a separating-machine.

Rudolph W. O. Rehmenklau, Minneapolis, Minn., No. 422,974, a rotary separator, grader or bolter, having the combination, with the stationary case, of the vertical shaft,

the horizontal screens mounted thereon, the annular flanges on the case making joints with the rims of the screen, the hoppers between adjacent screens secured to said flanges and projecting into the angle formed by the rim of the screen, radial arms secured to the lower part of said hopper, and rolls of cloth or other flexible material mounted on said arms, the free ends of which may be made to overlap and underreach each other, so as to form a continuous trailing cover in contact with said screens.

Andrew Hunter, Milwaukee, Wis., No. 423,258, a device for scalping wheat-breaks, comprising the combination, with the side walls of the main frame having perforations near the head end thereof and below these arc slots, of boxes passed through the upper perforations, side boards suspended on said boxes just within the said side walls, a drive-shaft passed through said boxes and across the machine, another shaft passed through the side boards across the machine and extending out through the described arc slots, upper and lower shafts extending from one side board to the other at the tail ends thereof, sprocket-wheels on all said shafts adjacent to the inner surfaces of said side boards, sprocket-chains connecting the upper head and tail sprocket-wheels, and like chains connecting the lower head and tail sprocket-wheels at each side, the upper set of chains being connected by transverse brushes and the lower set of chains being connected by a transverse brush, a stationary frame secured to the said side boards between the upper and lower sets of chains and carrying stationary screens swept by said brushes, a ratchet-controlled shaft extending transversely across the tail end of the machine, flexible connections between said shaft and the said side boards, a hopper having a feed-roller with projecting shaft, sprocket-wheels on the said shaft and on the adjacent ends of the drive-shaft and other shaft at the head-end of the machine, and a sprocket-chain connecting the said last-named sprocket-wheels together.

John Montgomerie, Partick, County of Lanark, Scotland, No. 423,263, a mode of making malted bread, consisting in first mixing flour, water and extract of malt or maltine, heating the mixture in a water-bath to 130° to 150° Fahrenheit with agitation, maintaining it at that temperature for a few hours until the diastase acts on the starch and converts it into soluble dextrine and sugar, then making a dough of this compound by further addition of flour, and subsequently forming and baking the same.

Benj. T. Boomer, Buncombe, Ill., No. 423,304, a grain-separator, comprising the combination of the fan, the casing inclosing the same, having a lower blast-opening and a shoulder formed in one side thereof, the grain-passages arranged on one side of the fan and merging into each other, the upper passage having a shielded opening communicating with the lower passage, which is constructed by the shoulder in the fan-casing and the lower end of the outer wall of said passage, and the deflectors in the lower opening of the lower grain-passage adjacent to the blast-opening in the fan-casing.

JAGO ON INDIAN WHEAT FLOUR.

Professor Wm. Jago, in his Cantor lectures on bread-making in London, recently said: "There are three varieties of flour mentioned which merit more detailed examination by us. First among these are the flours from English wheats. These are characterized by their production of bread of an exceedingly sweet and pleasant flavor and, at the same time, good color. Used alone they do not yield a loaf sufficiently large and light to suit modern requirements, and therefore have to be blended with flour of a stronger nature. The success of English wheat-growing governs very largely that of British agriculture generally, and consequently our national prosperity. Any cause which acts as a stimulus to home culture of wheat must be productive of great benefit to the country at large. Let us next for a moment direct our attention to the wheats of India and Canada. Both are most important dependencies of the British Crown and countries of the greatest interest to us. The question of Indian wheat supply has of late attracted much public notice, largely on account of the dirty state in which it reaches this country. Conferences have been held to consider this matter;

the opinions of the corn merchant and miller have been given and made subjects of debate. But, so far as I know, there has been one curious omission, and that is the user of the flour. A successful market for Indian wheat is a desideratum for that country, but it seems to me that the most important question of the whole is that of the suitability of the flour from this wheat for bread-making purposes. I have not found myself able to speak very highly of Indian wheat flours. I could quote the opinions of expert bakers, whose words have the greatest possible weight among members of their own trade, who would pronounce a yet more unfavorable judgment than I have done. In the face of such opinions I would urge as a most important matter, in the interest of Indian wheat cultivation, that those who have its success at heart should take steps to secure that such wheats are grown as produce flours of greatest service to the bakers of this country. I may be overstepping the bounds of my present functions, but I have now in my mind the names of men, members of the baking trade, who, should they be formed into a committee to report to and advise Her Majesty's Government on the baking properties of Indian wheat flours and their improvement, could render most important service to both Indian and British agriculture. Although the majority of such a committee should be bakers, it would be materially strengthened by the addition of one or two agriculturists who are familiar with the problem of the development of new species of wheat and the acclimatization of important varieties in new districts. The flintiness of Indian wheat causes it to be considerably damped before it is milled. When converted into flour under the most favorable conditions, it produces a flour that acts as a substitute for that of English wheat. With the addition of sufficient water to the wheat softness is obtained, but the gluten remains low and inelastic. Physically, softened Indian wheat may then replace that of English growth, but is altogether devoid of the flavor the latter possesses."

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This new method of "one remedy for one disease" must appeal to the common sense of all sufferers, many of whom have experienced the ill effects, and thoroughly realize the absurdity of the claims of Patent Medicines which are guaranteed to cure every ill out of a single bottle, and the use of which, as statistics prove, *has ruined more stomachs than alcohol*. A circular describing these new remedies is sent free on receipt of stamp to pay postage by Hospital Remedy Company, Toronto, Canada, sole proprietors.

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A LONG-LIVED ARC LAMP.—A rotary arc lamp is soon to be put on the market by a Boston firm. In place of the ordinary pencil carbons, carbon disks are to be used, and as these are consumed they revolve, presenting new surfaces to the arc. It is said these lamps will last 40 or 50 hours.

GENERAL NOTES.

In the wine cellar under the Hotel de Ville, Bremen, there are twelve cases of holy wine, each case inscribed with the name of one of the apostles. It was deposited in its present resting place 265 years ago. One case of this wine, consisting of five ox hofs of 204 bottles, cost 500 rix dollars in 1624. Including the expense of keeping up the cellar, interest on the original outlay and upon interest, one of those ox hofs would to-day cost 555,657,640 rix dollars, or about \$2,000,000 a bottle.

WHEAT IN ARGENTINE REPUBLIC.

Following is a Buenos Ayres letter dated January 15, 1890: The wheat harvest is finished in the provinces of Santa Fe, Cordoba, Entre Rios, and in the north and east of Buenos Ayres, and is making progress in the Colonies Azut, Olavarria and Hiujo. The districts of Tandil, Juarez and those to the South of Olavarria are more backward, still before the end of January even those distant points will have their wheat gathered. The reports from Sauce Corto, Arroyo Corto and Pigue are gloomy; the harvest there may be considered ruined for want of rain. In the colony of Tornquist there will be a medium harvest, which is estimated at 15,000 to 20,000 bushels. The harvest in Azul, Olavarria and Hiujo is reckoned at about 500,000 bushels. Since our last there has been a good deal of rain, and the thrashing has consequently been delayed, not only in Buenos Ayres, but also in Santa Fe and Entre Rios. This explains why it has not been possible yet to provide standard samples for export, although it is known that generally the quality of this season's wheat is equal if not superior to that of 1886-7. With regard to the quantity harvested, we are not in a much better position to quote figures than we were a month ago. We shall have a good surplus to export, but it is yet impossible to form any exact estimate. In our last report we stated that some lots of new wheat had arrived on the market, which, on account of their very fine quality, had found ready buyers at high prices. Since that time, and especially during the first week, several further parcels have arrived, although the quantity has fallen off during the last week on account of the heavy rains. The wheat is still rather tender, and this has prevented prices being maintained. We must look for lower prices when wheats are in greater quantity.

ELECTRICITY IN FLOURING-MILLS.

Minneapolis millers are making use of electricity in their mills in a rather unusual way. A recent letter from that city says: The visitor to the small dynamo room attached to the big Pillsbury "A" flour-mill in this city will meet a man attired in the regular working suit, his clothes covered with flour-dust and soiled with the black that is so plentiful around a manufacturing establishment. This man is Thomas C. Hughes, the electrician of the Pillsbury flour-mills. He has been experimenting with the heating power of electricity for several months and has demonstrated that almost any degree of heat can be produced by the electric current. The great problem that the industrious electrician is now endeavoring to solve is how to heat a house or business block by electricity. This has been attempted by eminent electricians, but thus far all experiments have resulted in failure. Mr. Hughes has studied these failures carefully, and he is confident that he is pursuing the right course to a solution.

The millers all sell flour under different brands and for different prices, and doubtless many housewives have wondered how the grade of each brand continues so even, generally making bread of equal quality. A visit to the "dough-room" of a big flour-mill would reveal the secret. Piled all around the room are little pasteboard boxes, each filled with wheat or flour and each bearing a label. The "doughman" takes the half pound of wheat in one of the boxes, puts it in a small hand-mill and grinds it. The bran and starch are quickly washed out under a faucet, leaving the gluten, which resolves itself into a sort of paste. This is baked in a small oven, and the height to which it rises determines the value for bread-making of the consignment of wheat of which the handful ground was a sample. The millers had always had trouble to secure an oven that would do this work satisfactorily, and the best one they could buy was of English manufacture. It is about 14 inches in height, with a cement bottom 2 inches in thickness, and a door 12 inches high. It took 1 hour and 40 minutes to heat this oven to the 500 degrees necessary for baking the gluten, and when the large door was opened to put in the gluten 100 deg. would be lost; it required 15 minutes to bake the dough.

In the Hughes oven the small piece of gluten is placed in a cylindrical brass case, about an inch in diameter, which in turn is placed in the oven, also cylindrical in form, and under a heat of 500° or more the gluten is baked in 4 minutes, the entire operation in heating the oven and baking requiring less than 12 minutes. The test of gluten is in the height to which it will rise. In the little cylindrical tube is placed a plunger bearing a weight of 11½ ounces, which is pressed down closely on the gluten, and in baking it carries the weight upward, and the higher it lifts it in the tube the stronger are the bread-making qualities of the wheat from which the gluten was taken, and the milling of the proportions of the different grades of wheat, as determined by the gluten tests, produces the required standard of flour, and it is in this way that the brands are kept even. Mr. Hughes simply connects his oven with the regular electric current in the mills and acquires the desired result without tiresome and expensive delay. This oven is now in use in the Pillsbury mills and is giving the best satisfaction. It can be heated to 680° in its present size.

The belt-men had a good deal of difficulty in keeping their glue-pots at the proper temperature for cementing belts when it became necessary to go to some part of the mills away from the warming stove. Mr. Hughes applied electricity, with the result that all of the glue used in the mills is now brought to the right degree of heat by its use, and the pot is so constructed that no heat can escape, thus enabling workmen to carry it about the mills for an hour before it is necessary again to warm it. The 400 employes in these mills had generally to drink cold coffee at lunch. Mr. Hughes had a 3-gallon tank made and mounted on a block. He applied his electrical connection and brought the 3 gallons of water to boil in 3 minutes, and the employes now take their coffee hot and daily drink warm draughts to the health of the mill electrician. Mr. Hughes says his electric heater will warm a larger quantity of water as quickly.

These experiments with electricity have gradually paved the way to more pretentious efforts, and they are now being directed to the development of a plan for heating residences and business blocks by electricity. The plan of Mr. Hughes provides for a central plant, and the heat is to be carried to the buildings, but the manner is not yet revealed by the inventor. In the building to be heated it will be distributed by a system of pipes similar to the furnace pipes now in general use, except that no hot air will be allowed to escape until it is distributed by radiation into the desired rooms. About 75 per cent. of the heat from furnaces is lost before it can be distributed where it is wanted. By the Hughes system, if successful, none of the heat will escape until it is distributed through registers into the room, and this saving of heat will be so directly in the path of economy that the inventor claims electricity can be used for heating houses wherever coal is used, and that it will cost no more than coal, and he thinks considerably less. The purchaser of electricity by

this plan would pay only for what he uses. When the desired temperature is attained in a room the current can be completely closed or reduced, as may be desired, and a meter will record the amount of electricity used. A spring on the house registers will close the electric current, and up-stairs

registers can be closed by a device on the ground floor, thus making it convenient as well as pleasant. Mr. Hughes is confident that he will be successful in perfecting this invention. He expects to secure the patent within a month, and he will then reveal more of the details.

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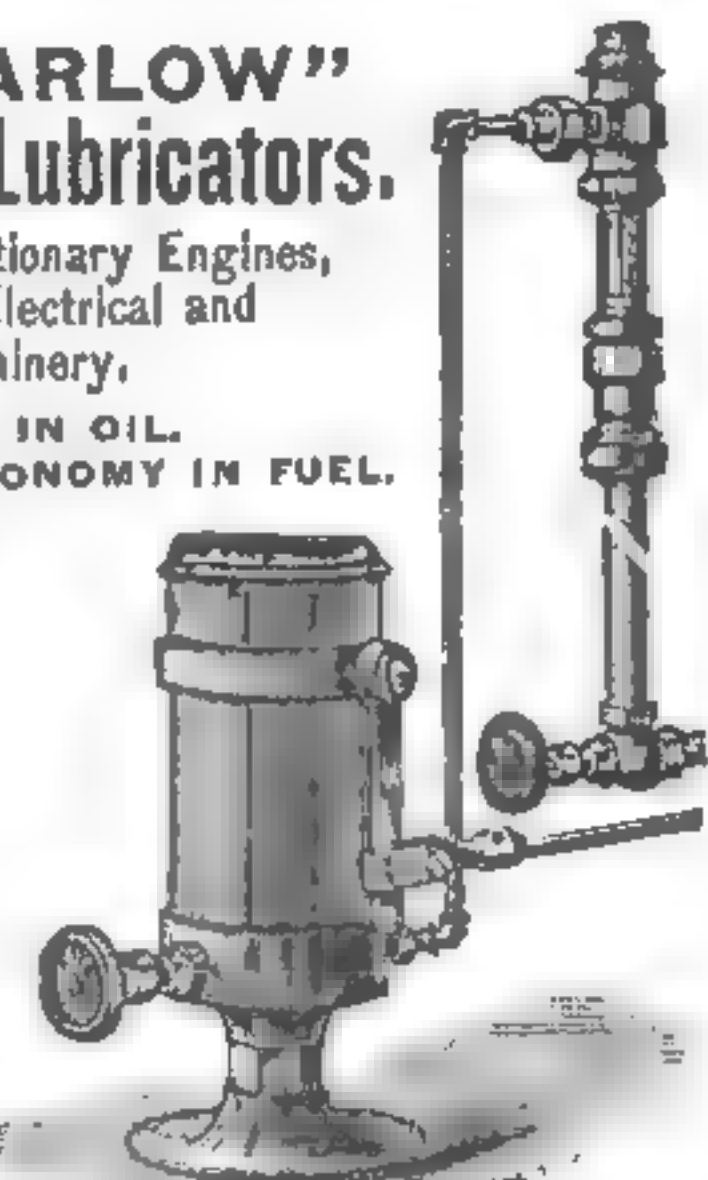
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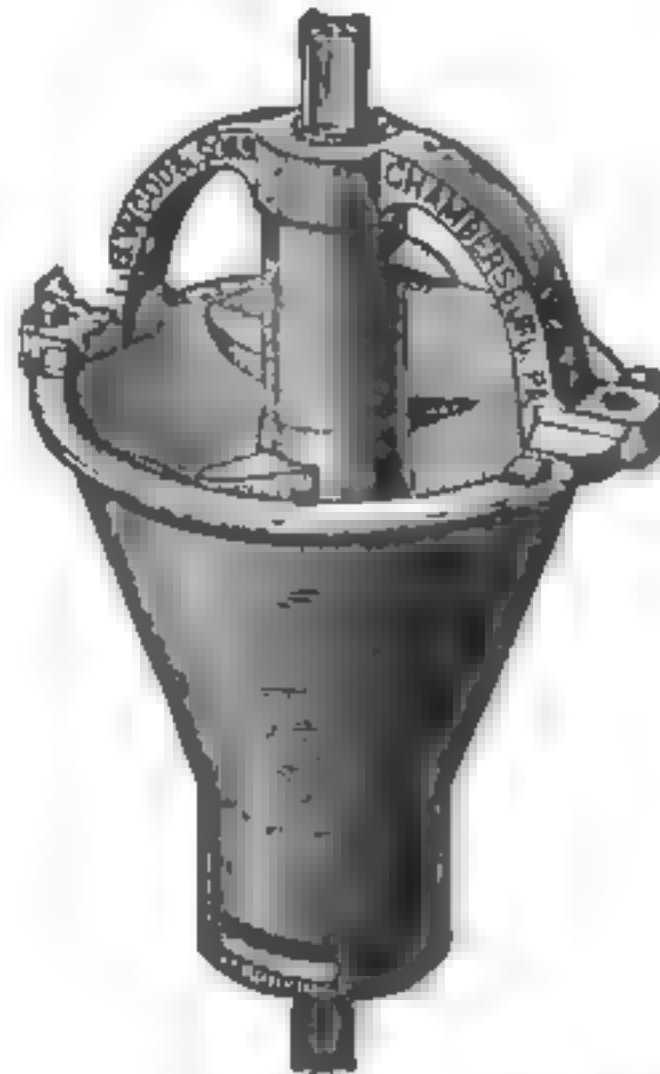
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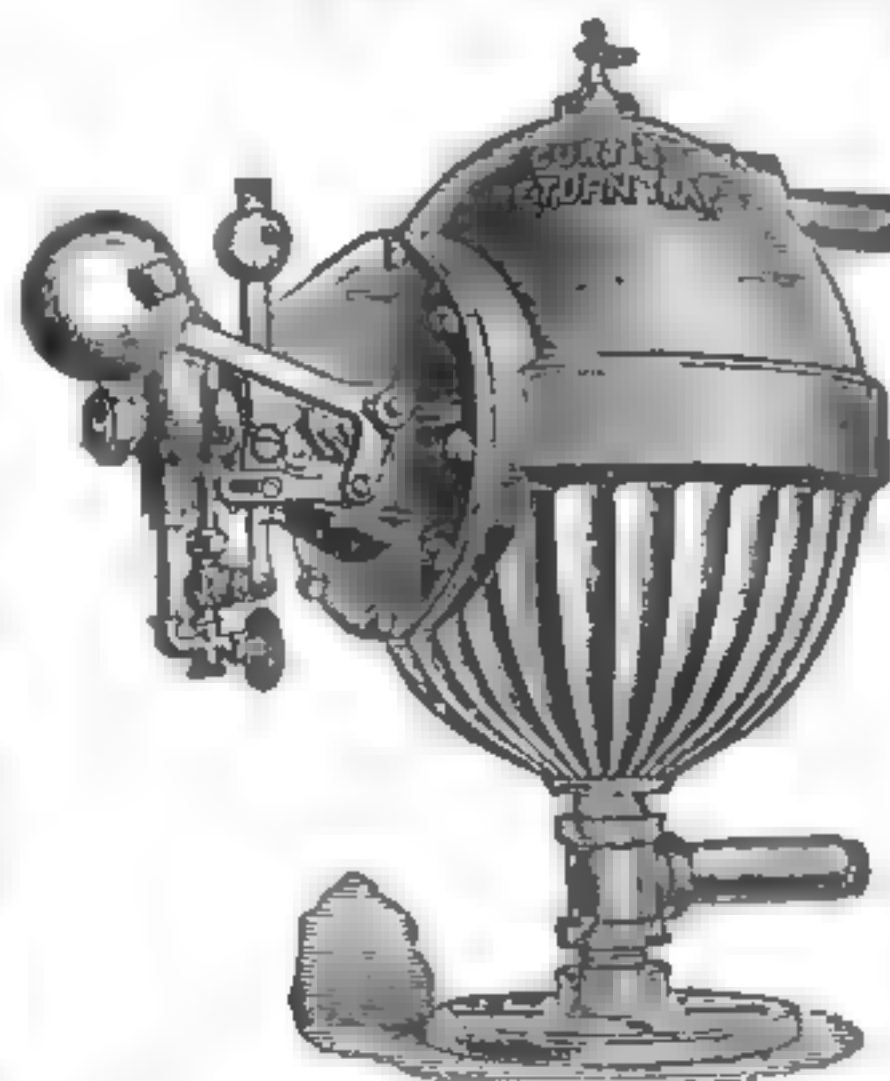
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NO. 8 Represents one side of one of our Revolving Cabinet Letter Files and Document Cases Combined. It contains 30 Document Drawers and 8 Letter File Drawers. In filing letters we use first VOWEL of name on front of drawer, and LETTER FOLLOWING first VOWEL on Index Sheet within drawer. We also make more exhaustive systems which contain from 6 to 100 or more Filing Drawers.

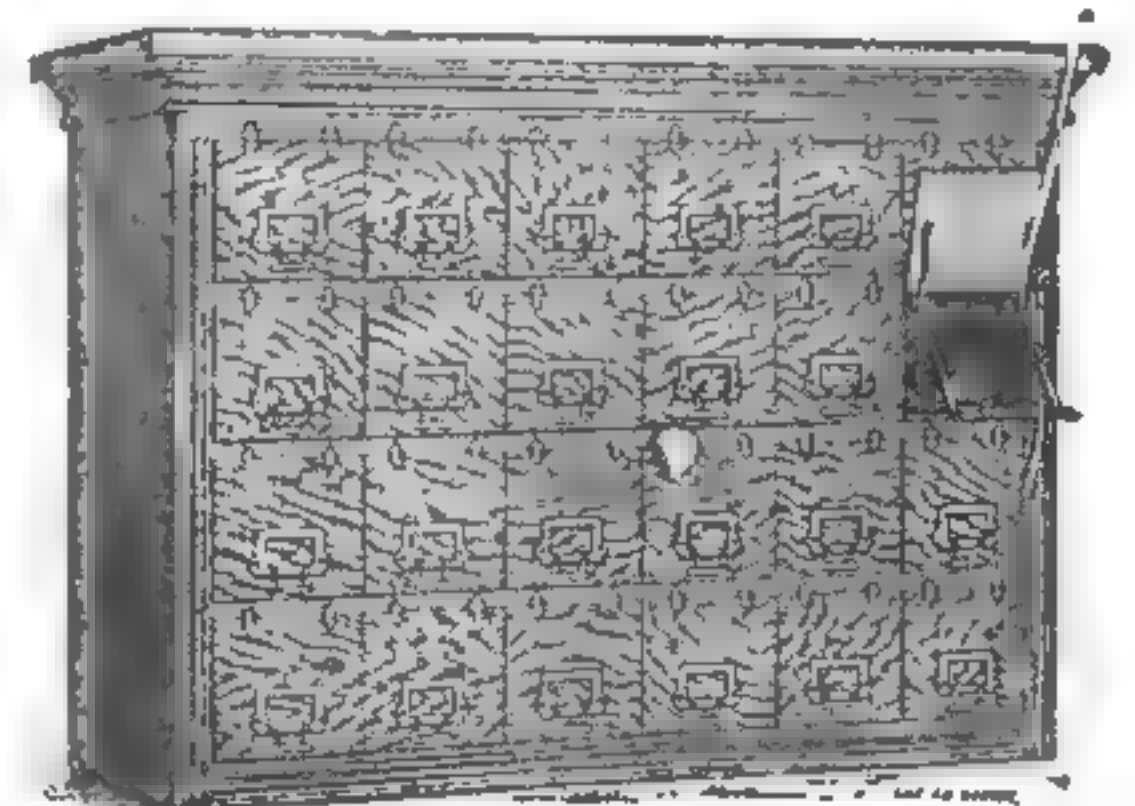
NO. 1 Represents one of our small Document Cabinets, for use on desks or brackets. Action of drawer can be seen in the cut. When front is raised inner drawer comes forward, exposing contents of drawer for inspection.

Our Cabinet Files are Conceded to be the Most Convenient of Any in the Market. They are Compact, Simple, Complete, Durable and Ornamental.

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NO. 8.



NO. 1.

NOTES & NEWS

C. Gastano's mill, Puente, Cal., burned.
 Quanaah, Tex., men build a flouring-mill.
 J. A. Carpenter, Beloit, Ia., rented a mill.
 M. F. Pease, miller, Lowell, Wis., sold out.
 A. A. Cook's mill, Placerville, Cal., burned.
 J. F. McClure, Rome, Ga., remodels to rolls.
 A. B. Smith, Concord, Ky., remodels to rolls.
 J. Tallent, Graysville, Tenn., built a grist-mill.
 Skidmore, Tex., men project a \$4,000 grist-mill.
 N. Finch's grist-mill, Spring Hope, N. C., burned.
 H. W. Stockley, Corona, Tenn., builds a grist-mill.
 J. W. Bonner, Warm Springs, Va., built a grist-mill.
 Dague & Dickover, millers, Roanoke, Ind., dissolved.
 W. B. Hargrove, miller, Equality, Ill., quiet business.
 Nixon & Field, Cherry Creek, Miss., build a grist-mill.
 H. H. McClintic, Warm Springs, Va., built a flour-mill.
 H. J. Reas, miller, Genoa, N. Y., now Hubert & Sullivan.
 Gill & Forrester, millers, Hillsboro, N. D., now Henry Gill.
 Duncan & Littleton, millers, Baker City, Ore., now Duncan Bros.
 J. M. Hunter's flour-mill, Carter's Creek, Tenn., burned; loss \$6,000.
 Cost's hominy mill, Frankfort, Ind., burned; loss \$10,000; insurance \$5,000.
 J. Haner, Stamping Ground, Ky., has points on a projected roller flouring-mill.
 Carrollton, Ga., men project a co-operative company to build a large flouring-mill.
 Jos. Cronin, Frederick, Md., has bought the Linganore flouring-mill plant for \$6,370.
 The Fort Smith, Ark., Milling Co. want new rolls and an electric-light plant for 30 lights.
 Shreveport, La., men project a stock company to build a 400-barrel roller flouring-mill.
 Houston, McDaniel & Co., South Pittsburg, Tenn., sold their grist-mill plant to R. M. Payne.
 The Hillsboro, Tex., Roller Mill Co., capital stock subscribed \$21,000, are building a 3-story, 125-barrel flour and 25-barrel corn-meal mill.
 W. J. McSween and others, Newport, Tenn., have incorporated a \$15,000 stock company, to build a roller flouring-mill. Machinery is wanted.
 "Avenine," the existence of which in oats was first announced by A. Sanson, has been vainly looked for by Wrampelmeyer, who was unable, even by Sanson's published method, to detect such an alkaloid in the oat.
 Love & Co., Meridian, Miss., have awarded their contract for all rolls and other machinery necessary for a full roller corn-meal mill, with a capacity of 1,000 bushels in 24 hours, to the Case Mfg. Co., Columbus, O.
 The Case Mfg. Co., Columbus, O., have received the contract of Jos. Overholt, Bowerston, O., for all the necessary rolls, flour-dressers, round scalpers, purifiers and other machinery for a full roller mill on the Case system.
 Anderson & Gustafson, Ashland, Wis., have formed a \$100,000 paid-in company to start a factory to manufacture Gustafson's patented grain-separator and a general line of agricultural machinery. They ask Ashland to donate a site and 20,000.
 Jos. H. Pool, the well-known miller, of Rochester, N. Y., died March 14, aged 79. He was born in England and came to the United States in 1837. He recently recovered \$40,000 damages from the Vacuum Oil Co., who were responsible for the naphtha explosion that destroyed his mill. Six children survive him. He celebrated his golden wedding in 1890.
 The Conneautville, Pa., *Courier* rushes the insect-pest business thuswise: "During the warm weather of a few days ago grasshoppers made their

appearance in vast numbers in southern Indiana. They did great damage to wheat, and had the warm weather continued the crop would have been badly injured. It is feared they will renew the attack when warm weather returns."

The National Pulley Covering Co., of Baltimore, have recently received the following communication in regard to their "Friction Covering" for pulleys from the well-known Ornamental Iron Works of David Pettit & Co., Philadelphia, Pa., which speaks for itself: National Pulley Covering Co.: "Your 'Pulley Covering' is all that you claim for it. It is durable and increases the power of the pulley at least 25 per cent."

The J. B. Allfree Co., Indianapolis, Ind., have secured the contract for a flour-mill of 100 to 125 barrels capacity per day, to be built in Indianapolis for John D. Church & Bro. Notwithstanding the fact that there has been smart competition for this mill, the Allfree system has been victorious. In addition to the above, the Allfree Company have taken several contracts for complete mills in different parts of the country.

People of the Old World still hold some odd superstitions in regard to food. In several countries food is thrown away after a newly married pair as they set out on their journey. At one time it was the custom in Sweden to scatter wheat on the bridal couch as a symbol of plenty. In Russia hops were substituted for wheat. Children in Bonneval in France must, when they desire bread at the table, indicate exactly the point at which the loaf is to be cut. If they choose too much they are told that "thier eyes are bigger than their stomachs," and are made to eat all the cut. To induce them to eat stale bread that has been retained from the fields, they are told it is better because the larks have sung over it.

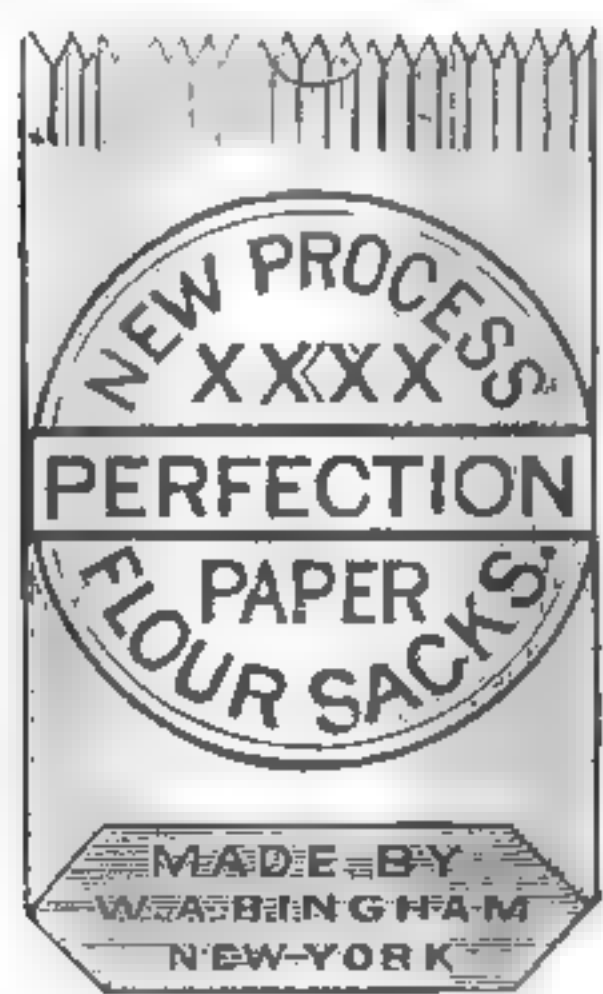
The exports of wheat from India, America and Russia for 11 calendar years, from 1879 to 1889 inclusive, in quarters of 480 pounds, were as follows:

	India. Quarters.	United States. Quarters.	Russia. Quarters.	Total. Quarters.
1879.....	510,000	22,462,500	10,440,000	33,412,500
1880.....	1,725,000	23,212,500	4,597,500	29,535,000
1881.....	4,627,500	15,187,500	6,165,000	25,980,000
1882.....	3,300,000	18,487,500	9,615,000	31,402,500
1883.....	4,882,500	13,897,500	10,545,000	29,325,000
1884.....	3,682,500	16,512,000	8,527,500	28,722,000
1885.....	4,890,000	11,782,500	11,550,000	28,222,500
1886.....	5,349,000	19,162,500	6,495,000	31,006,500
1887.....	3,509,000	14,902,500	9,795,000	28,206,500
1888.....	3,833,000	11,089,000	15,877,500	30,799,500
1889.....	3,330,000	11,325,500	11,893,800	26,549,300
Total 11 years..	39,639,000	178,024,500	105,501,300	323,164,800
Yearly average	4,603,545	16,184,045	9,591,027	29,378,617

BOOKS AND PAMPHLETS.

The production of Ernest Reyer's new opera, "Salammbô," at Brussels, is the most important musical event that has thus far happened this year in Europe. A comprehensive account of this remarkable work constitutes the leading attraction of *The Transatlantic* of March 15. Almost equally remarkable is a review in the same issue of the Socialist party in Germany, which the recent elections in that country brought forward so prominently. The conclusion of Guy de Maupassant's "Vagrant Life," the continuation of the serial "On the Mountain," a new criticism of Zola by the great Russian reviewer, Michailovsky, and an account of the discovery of a new Rembrandt in France complete an attractive table of contents. 328 Washington street, Boston. \$2.00 a year.

Stanley's new book, entitled "In Darkest Africa, and the Quest, Rescue and Retreat of Emin, the Governor of Equatoria." Mr. Stanley has advanced so far with his account of his adventures in achieving the rescue of Emin as to be able to announce the title of his book. All sensible persons will await with patience for the publication of the authentic account, "In Darkest Africa, and the Quest, Rescue and Retreat of Emin, the Governor of Equatoria," though there will be an abundance of Stanley literature turned out from the printing presses during the next few months. Probably the smooth-tongued book-agent will be able to convince some guileless persons that he is retailing "Stanley's Own" long before the only genuine narrative of the great traveler's heroism, privation and suffering is given to the world. Would-be purchasers should be on their guard.—*New York Tribune.*



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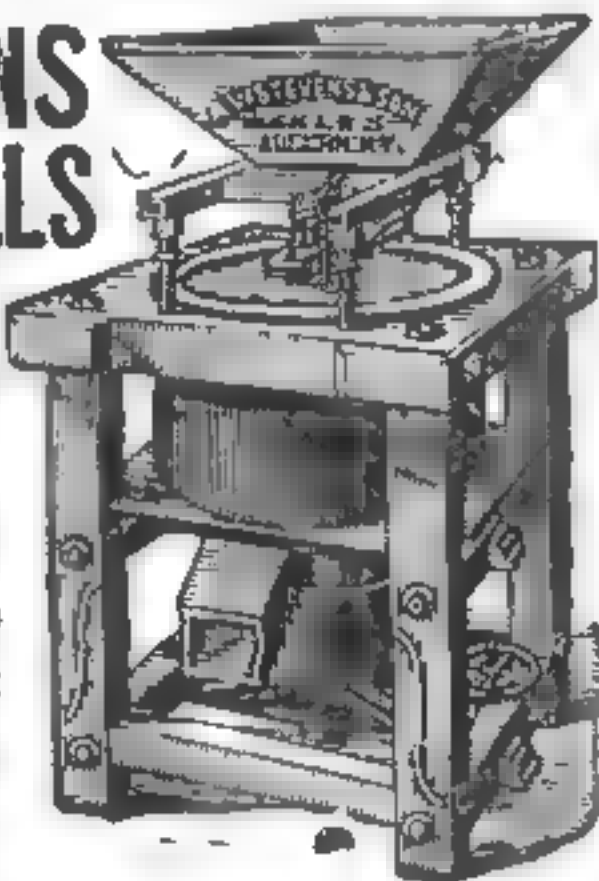
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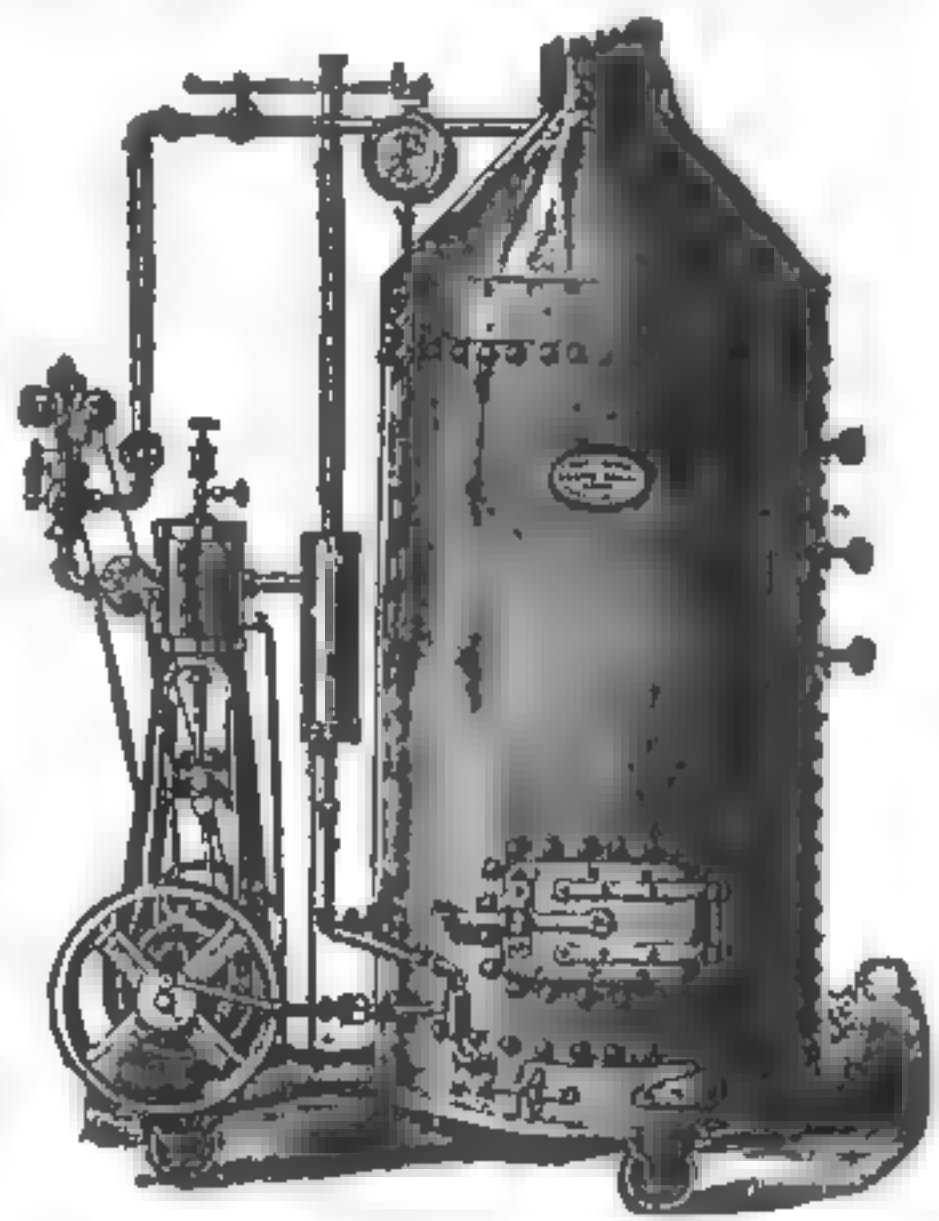


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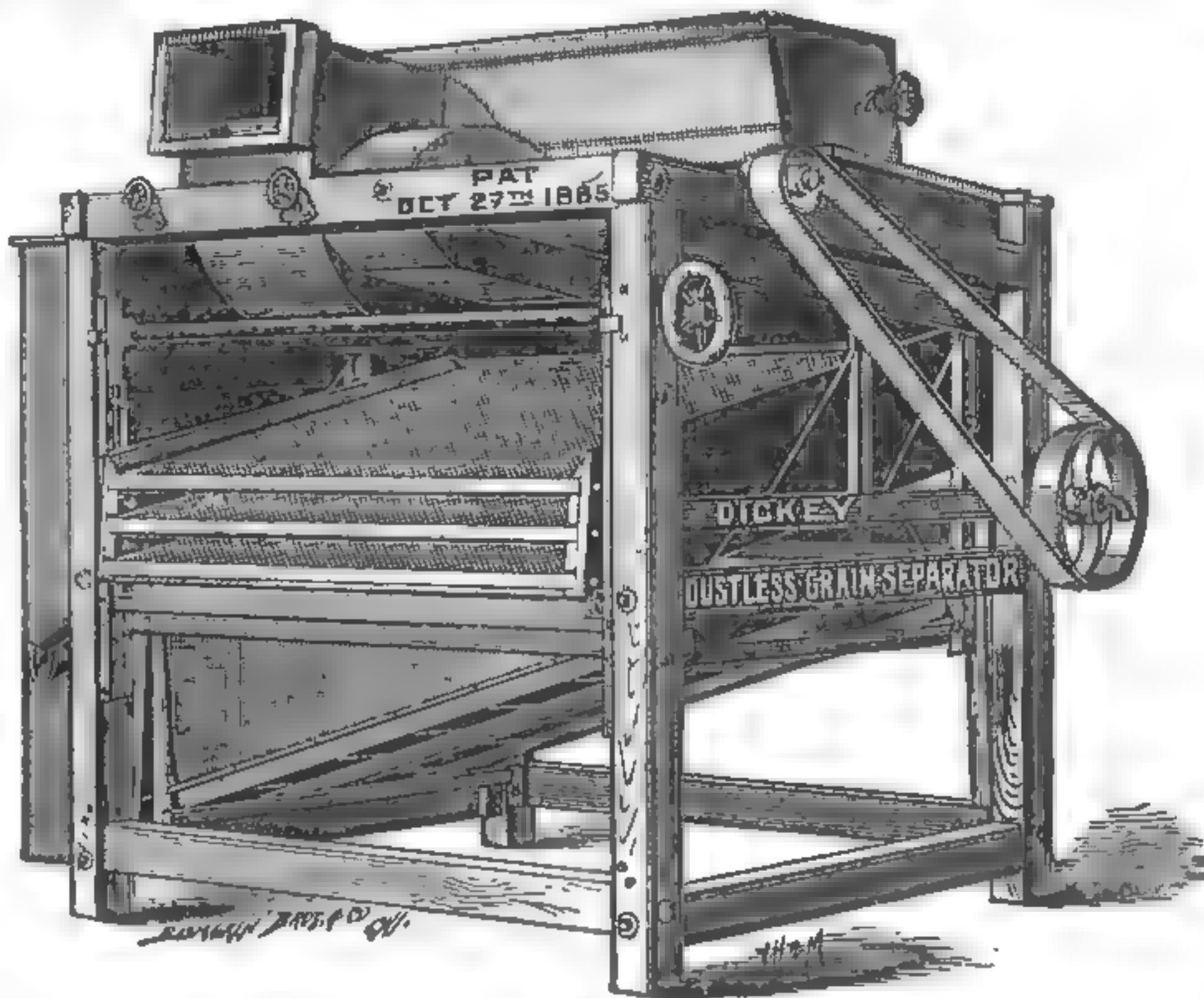
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This Separator is our latest and most perfect, and guaranteed to be the superior of any now on the market. This machine, as can be seen by the cut, is not a warehouse fanning mill with one patent attachment, but is Dustless Separator, made for the express purpose of thoroughly cleaning and separating all kinds of grain in large quantities; its construction is such that the working machinery and weight is all within the parts or anchors.



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We claim for it Superiority over everything of the kind made, in simpleness, durability, saving of power, capacity and cost of construction. Its height will accommodate any number of spouts from different points, without moving machine. They have a capacity from 700 to 1,500 bushels per hour. We also control exclusively the manufacture of the celebrated Dickey Giant, End and Side Shake, Warehouse Mills, that have attained such a world-wide reputation. Sent on approval to any reliable party. For full particulars address,

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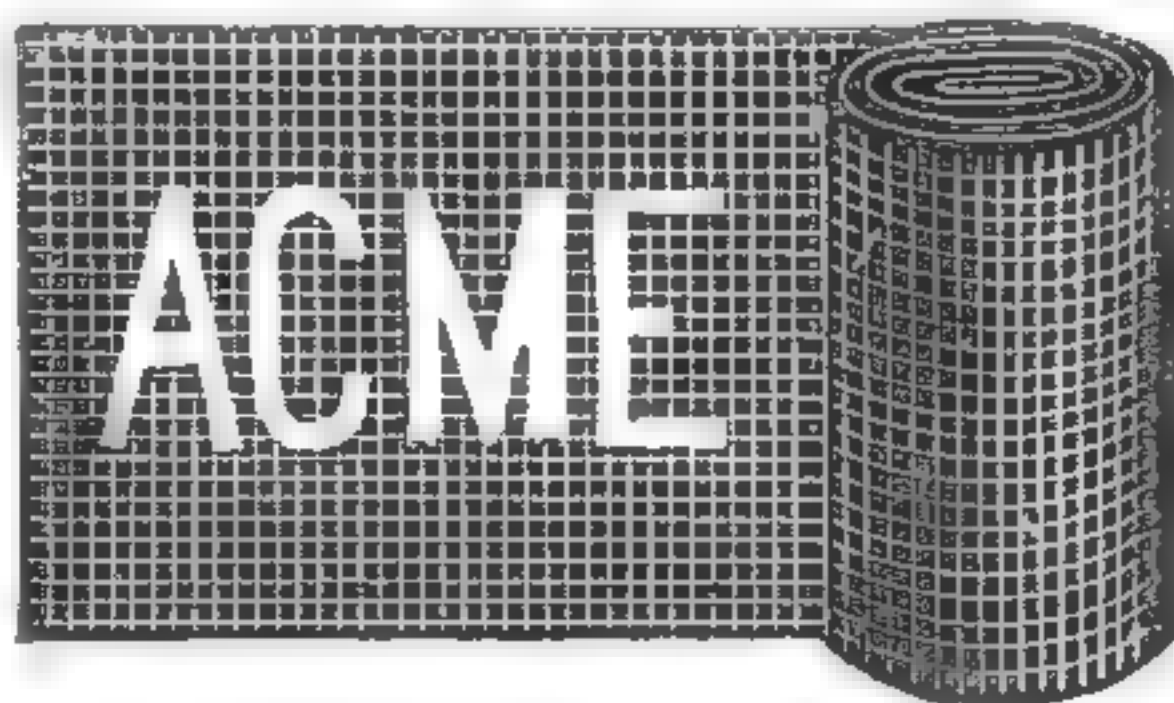
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EUROPEAN ECHOES.

ACCORDING to a preliminary estimate of the yield of the cereal crops in Austria, exclusive of Hungary, in 1889, transmitted to the Board of Agriculture by the Foreign Office, it is seen that the total quantity of wheat produced was 29,961,250 bushels, against a yield of 36,993,000 bushels in 1888. In 1889 37,908,750 bushels of barley were produced in Austria, while in 1888 46,733,500 bushels were obtained. The oat crop of 1889 gave a return of 67,562,000 bushels, compared with 84,931,000 bushels in the year 1888. There was a falling off in rye and maize crops in 1889.

SAYS the Liverpool "Corn Trade News" of February 24: The Russian shipment for the week ended on the 15th is only half as big as the previous one. Our Odessa correspondent has replied to our query about the stocks in that port by saying that reserves have been very largely drawn upon, and that they will not be replenished before spring. A freight broker's cable mentions the absence of demand for tonnage, which does not indicate enormous stocks. Another cable describes the port as closed, and several steamers caught in the ice; this is hardly credible. A Lloyd's cable mentions severe frost on the Danube. The latest about the Indian crop prospects is that some rain has fallen in the Punjab, but not enough to make a big crop. Allowing for the exhaustion of stocks, the surplus for export is expected to be less than in the season just closing, say 500,000 quarters less than 3,800,000 quarters, the likely total for 1889-90.

THE London "Millers' Gazette" of February 24 "sits down upon" Australasian boomers in the following convincing style: The "Morning Post" of Tuesday last, in a leader specially devoted to the subject, deduces to its own entire satisfaction, from the records of wheat-growing in South Australia, that that is destined to be the wheat country of the future, its extraordinary record being calculated to make people both in Europe and America "open their eyes with amazement." Thus says the "Morning Post," and a more misleading statement could hardly be made. The writer in the "Morning Post" assumes that the agricultural population of South Australia is only 30,000 and then proceeds to calculate that, having raised in 1887-88 wheat to the value of £2,837,000, this was equivalent to £95 per head of the farming community, apart from their gains in other agricultural pursuits, such as sheep farming. Even in 1888-89, when the average yield per head was under 4 bushels, the "Morning Post" figures out the earning per head in wheat culture alone at £42. We should not advise intending emigrants to the Antipodes to take these figures for granted; on the contrary, they should be particular in examining the other side of the picture, what in fact it costs to produce an acre of wheat, the yield varying from 3½ bushels per acre as in 1888-89, up to say 9 bushels, a point seldom if ever exceeded. Something is evidently wrong with the "Morning Post" figures. The agricultural population is largely under-estimated, as is also doubtless the farm value of wheat. Thus in the present season, when about 2,000,000 acres are under wheat, and which was expected to be a very abundant season, the yield will probably not after all exceed 2,000,000 quarters, the average farm value of which will perhaps not exceed 22s. 6d. per quarter, thus giving a total sum of about £2,250,000, which would have to be divided among probably 60,000 persons directly and indirectly engaged in agriculture, and thus even in a good year yield but £37 per head.

EUROPEAN PAUPER LABOR.

The report of the United States Consul at Prague, Mr. Jones, on the condition of factories and factory operatives in Bohemia affords some interesting information about the pauper labor in Europe which, but for the barrier of a protective tariff, American workmen would have to compete with. Bohemia is the most industrious province of the Austro-Hungarian empire, its manufactures are varied and numerous, and they are esteemed of such importance that the Government makes a careful inspection of them every year through official inspectors chosen for the purpose. In

the factories at Prague business was reported satisfactory and work plentiful for 1888. Still, the working hours are 11, wages are low, and the condition in some of the establishments is spoken of as "frightful." The match factories are without ventilation, and the deadly fumes poison the air and destroy the health of the operatives. In one factory 43 persons, one of them a child 13 years old, fell victims to the phosphoric necrosis. In some of the carpenter shops there were found children kept at work 14 and 16 hours a day, and, during a night visit made by the inspector, he saw over 100 women and young girls at work. In some of the spinning mills men were kept at work 18 hours out of the 24. The business of waste cotton spinning was depressed, and it seems that when this is the case the operatives must be the victims, their wages being reduced and their working hours increased to prevent losses to their employers. Perhaps the hard and painful struggle for life among factory operatives will be best comprehended when it is stated that in one district here are 8,770 workingmen's families, with 38,245 members, living in 108 communes, and 23,548 work for wages, about three out of every five, and the average yearly wages are the small sum of \$37.

WHEAT AND CORN STATISTICS.

The statistical report of the Department of Agriculture for March relates to the distribution and consumption of corn and wheat. It makes the proportion of the corn crop in the hands of growers 45.9 per cent., or 970,000,000 bushels, and of the wheat crop 31 per cent., or 156,000,000 bushels. The stock of corn on hand is the largest ever reported in March, of the largest crop, after the mildest winter. The average of eight annual returns is 677,000,000 bushels; that of last year 787,000,000 bushels. The estimated consumption to March 1 is 1,143,000,000 bushels, a figure exceeded only last year and in 1886. The proportion of merchantable corn of the crop of 1889 is 85.7 per cent. exceeded in recent years only by those of 1884 and 1886. The average value of all corn on December 1 was 28.3 cents per bushel. The average on March 1 was 27.9 cents for merchantable and 19.2 for unmerchantable, making an aggregate of value \$35,000,000 less than the December estimate.

The wheat crop of 1889 was exceeded by the crops of 1880, 1882 and 1884. The average remainder in the hands of owners March 1 for ten years past has been 130,000,000 bushels. The average crop during this period was 450,000,000 bushels. Only in years having a product much below this average has the March remainder fallen below 130,000,000 bushels, with the sole exception of 1886, when a crop of 457,000,000 bushels followed one of 357,000,000. Most of the wheat in farmers' hands is in States which have no surplus over consumption, or in those in which much the larger portion is consumed at home. The six spring-wheat States have only 45,000,000 bushels, 18,000,000 bushels of which will be required for spring seed, and the remainder is scarcely more than four months' consumption of their population. Ohio, Michigan, Indiana, Illinois, Missouri and Kansas, the only winter-wheat States east of the Rocky Mountains contributing to commercial distribution, have only 60,000,000 bushels, half of which will be needed at home, and a part of the remainder is commercially unavailable at present prices. It is seen, therefore, that the available supply for exportation and for home consumption to July is small.

CATARRH.

CATARRHAL DEAFNESS—HAY FEVER.
A NEW HOME TREATMENT.

Sufferers are not generally aware that these diseases are contagious, or that they are due to the presence of living parasites in the lining membrane of the nose and eustachian tubes. Microscopic research, however, has proved this to be a fact, and the result of this discovery is that a simple remedy has been formulated whereby catarrh, catarrhal deafness and hay fever are permanently cured in from one to three simple applications made at home by the patient once in two weeks.

N. B.—This treatment is not a snuff or an ointment; both have been discarded by reputable physicians as injurious. A pamphlet explaining this new treatment is sent free on receipt of stamp to pay postage, by A. H. Dixon & Son, 337 and 339 West King street, Toronto, Canada.—*Christian Advocate*.

Sufferers from Catarrhal troubles should carefully read the above.

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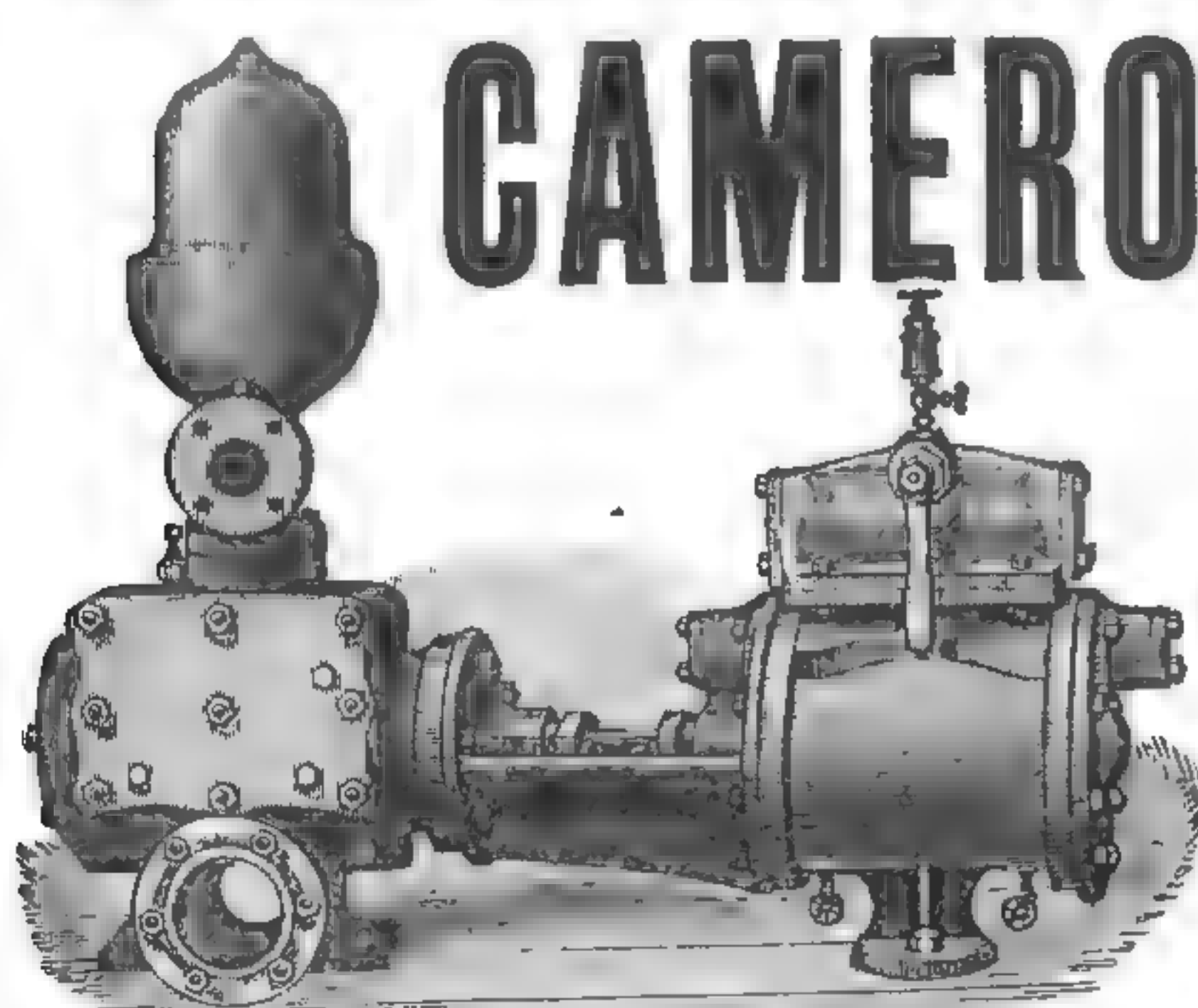
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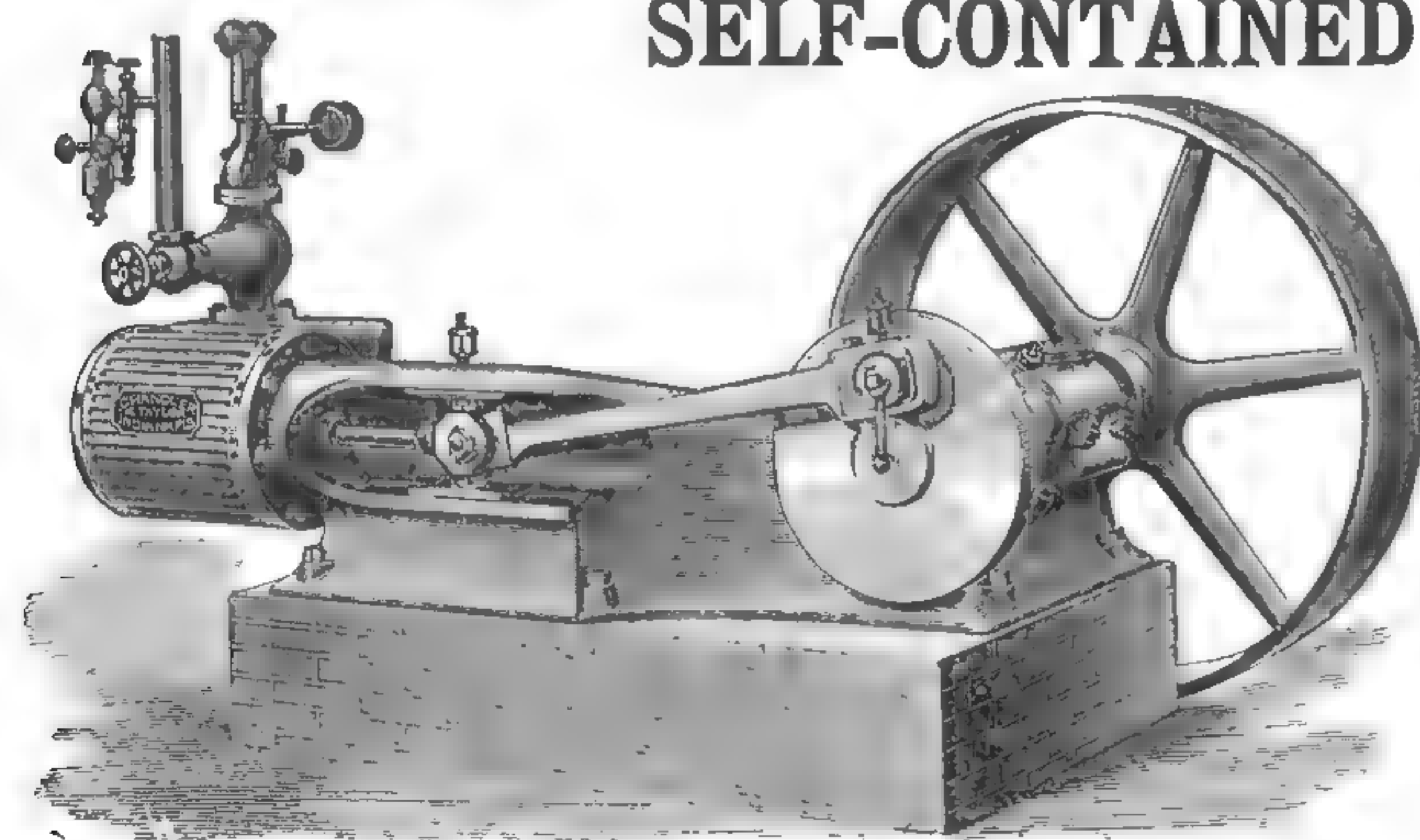
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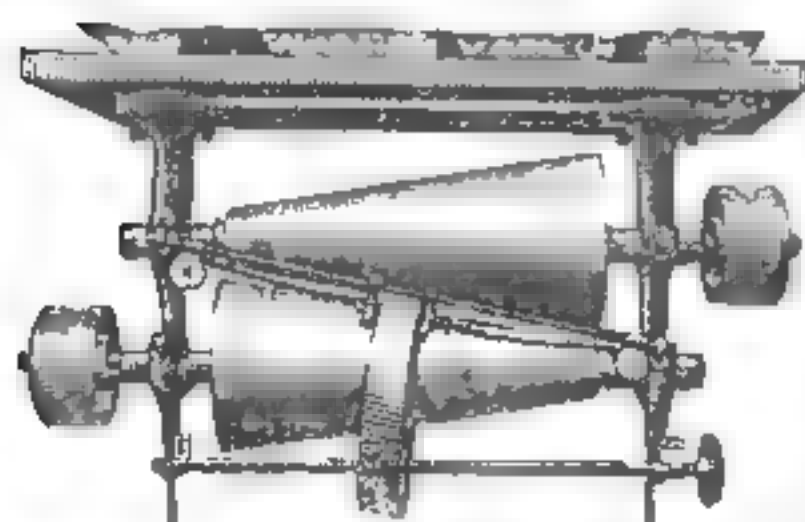
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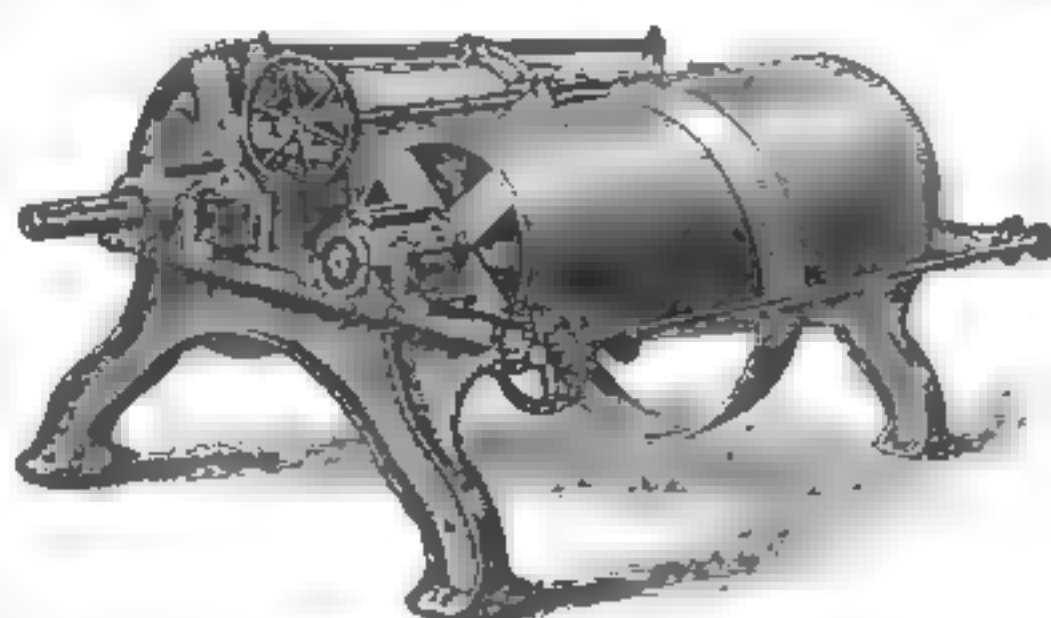
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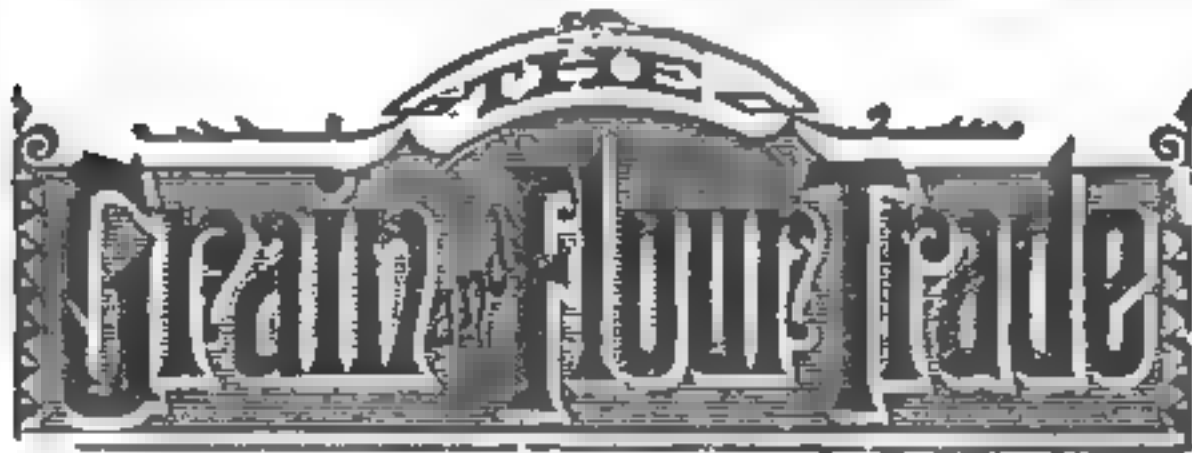
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BARLOW BROS. GRAND RAPIDS, MICH.



OFFICE OF THE MILLING WORLD,
BUFFALO, N. Y., March 15, 1890.

Friday of last week was a day of duller and easier markets, on pounding by shorts, realizing by longs, easier cables and better weather reports from the West. March wheat closed at 86½c., with Atlantic port receipts 40,935, exports 30,763, and options 2,100,000 bushels. March corn closed at 35½c., with receipts 422,926, exports 196,495, and options 1,320,000 bushels. March oats closed at 28½c., with receipts 109,228, exports 8,720, and options 500,000 bushels. Wheat flour was dull and easy, but not quotably lower. Receipts included 10,908 sacks and 26,397 barrels, and exports 6,646 sacks and 7,392 barrels. All the other lines were featureless.

Saturday brought no marked change in conditions. March wheat closed at 86½c., with receipts 96,033, exports 125,497, and options 1,100,000 bushels. The rumors of the forthcoming government figures on surplus aided to weaken things generally. Interior receipts of wheat for the week footed 1,153,000 bushels, against 1,184,000 bushels a year ago. March corn closed at 36c., with receipts 326,611, exports 459,189, and options 250,000 bushels. March oats closed at 28½c., with receipts 87,710, exports 36,731, and options 40,000 bushels. The other lines were featureless.

Monday brought dull and irregular markets, on conflicting rumors concerning the government report, which were alternately bear and bull. When the report was received, showing 156,000,000 bushels of wheat yet in farmers' hands, against 112,000,000 bushels a year ago, the market broke slightly. March wheat closed at 86½c., with receipts 22,713, exports 12,520, and options 920,000 bushels. March corn closed easier at 36½c., on crop reports showing 970,000,000 bushels in farmers' hands, against 787,000,000 bushels a year ago. Receipts were 389,977, exports 504,928, and options 1,480,000 bushels. March oats closed at 28½c., with receipts 120,356, exports 170,011, and options 500,000 bushels. Wheat flour was steadier on export grades in consequence of a decline in London freights to 16s. 3d. Receipts included 4,519 sacks and 28,732 barrels, and exports 29,690 sacks and 5,753 barrels. The minor lines were unchanged and featureless. The visible supply in the United States and Canada was:

	1890.	1889.	1888.
Wheat.....	Mch. 8. 28,314,594	Mch. 9. 81,780,157	Mch. 10. 36,662,387
Corn.....	14,517,694	16,911,625	9,202,103
Oats.....	4,868,390	7,741,338	4,426,317
Rye.....	1,588,485	1,641,019	378,299
Barley.....	1,658,543	1,712,133	2,235,323

Tuesday saw the full effects of the government crop report, which was accepted as a decidedly bearish document. March wheat closed at 86½c., with receipts 46,925, exports 173,761, and options 4,000,000 bushels. March corn closed at 36½c., with receipts 511,923, exports 407,263, and options 900,000 bushels. March oats closed at 28½c., with receipts 161,376, exports 50,615, and options 170,000 bushels. Wheat flour was very dull, the government report on wheat driving both home traders and exporters out of the market to wait for the decrease in prices which they think that report inevitably fore-shadows. The United Kingdom's imports of 190,000 barrels last week made the demand from that quarter very small. Receipts were 10,713 sacks and 35,516 barrels, and exports 18,000 sacks and 6,834 barrels. The minor lines were not affected by the report on wheat, corn and oats.

The following shows the amount of wheat and flour, together with the amount of corn, on passage to United Kingdom, for ports of call or direct ports for the weeks mentioned:

	1890.	1889.
Wheat and flour, qrs....	Mch. 11. 2,567,000	Mch. 12. 1,980,000
Corn, qrs.....	767,000	304,000

The following shows the amount of wheat and corn on passage to the Continent for the past week and for the same week last year:

	1890.	1889.
Wheat, qrs.....	Mch. 11. 418,000	Mch. 12. 302,000
Corn, qrs.....	465,000	259,000

Shipments India wheat to U. K. 17,500
do do Continent. 5,000

The imports into the United Kingdom for the past week and for the same weeks in previous years were as follows:

	1890.	1889.	1888.
Wheat, qrs.....	Mch. 11. 159,000	Mch. 4. 287,000	Mch. 12. 237,000
Corn, qrs.....	270,000	140,000	138,000
Flour, bbls.....	190,000	104,000	146,000

Wednesday was a day of generally dull and easy markets. March wheat closed at 86½c., with receipts 30,886, exports 34,374, and options 1,848,000 bushels. The Liverpool dock strike stopped all business in that port. Cables were dull and easy. March corn closed at 36½c., with receipts 448,291, exports 475,657, and options 830,000 bushels. March oats closed at 28½c., with receipts 94,020, exports 70,347, and options 100,000 bushels. Buckwheat grain was nominally 34½c. Rye grain was nominally steady at 45½c. for No. 2 Western in car lots, 57½c. for No. 2 State afloat, and 53½c. on track. Barley was in moderate demand at 46½c. for 6 rowed State, and 56½c. for ungraded Canada. Malt was nominally 60¢ for 2-rowed State, 70¢ for 6-rowed State, 75¢ for county-made Canada. Mill-feed was generally higher at the following quotations: 40 lb., 60-lb., 80-lb. and 100-lb. at 70¢ 72½c.; rye at 72½c. 75c.; country products at 65¢ 70c.

Wheat flour was dull. The home trade held off, being well stocked up on the late activity. Receipts were light, including only 2,650 sacks and 31,422 barrels, and exports were 22,094 sacks and 12,029 barrels. The market ranged from 5¢ 10c. over bottom prices. British buyers were making inquiries for both low and good grades at bottom figures. The quotations were as follows:

SPRING FLOUR.		
	Sacks.	Barrels.
No grade.....	\$1.25@1.40	\$....@....
Fine.....	1.40@1.70	1.60@2.00
Superfine.....	1.86@2.10	2.10@2.15
Extra No. 2.....	2.15@2.50	2.40@2.85
Extra No. 1.....	2.85@3.25	3.60@3.65
Clear.....	3.25@3.35	3.60@3.75
Straight.....	3.75@4.15	4.12@4.60
Patent.....	4.35@4.75	4.90@5.00

WINTER FLOUR.		
	Sacks.	Barrels.
No grade.....	\$1.35@1.70	\$....@....
Fine.....	1.85@2.00	2.00@2.25
Superfine.....	1.85@2.15	2.25@2.50
Extra No. 2.....	2.50@2.85	2.00@2.40
Extra No. 1.....	2.75@3.40	2.85@3.65
Clear.....	3.10@3.50	3.50@3.90
Straight.....	3.65@3.90	4.05@4.35
Patent.....	3.95@4.20	4.45@4.75

CITY MILLS.		
	Sacks.	Barrels.
W. I. grades.....	4.25@4.35	
Low grades.....	2.30@2.40	
Patents.....	4.65@5.20	

Rye flour was dull at \$2.75@3.00. Buckwheat

flour was nominal at \$1.25@1.40. Corn products were in improved export demand. Quotations included the following: White and yellow fine 88¢ 92c.; coarse 79¢ 82c.; barrel stock \$2.47 @2.50 for Southern and Western; Brandywine and Sagamore \$2.55.

Thursday was a day of generally steady and slow markets. March wheat closed at 87c., with receipts 11,000, exports 98,250, spot sales 51,600, and options 3,800,000 bushels. March corn closed at 36½c., with receipts 45,400, exports 311,000, spot sales 157,000, and options 1,920,000 bushels. March oats closed at 28½c., with receipts 76,000, spot sales 116,000, and options 185,000 bushels. Wheat flour was steady and moderately active, with receipts 11,785 packages, and sales 18,000 barrels. Sales included the following prices: Low extra \$2.15@2.65; city mills \$4.25@4.50; city mills patents \$4.65@5.15; winter wheat low grades \$2.15@2.65; fair to fancy \$2.85@4.45; patents \$4.15@4.90; Minnesota clear \$3.25@4.15; Minnesota straights \$3.75@4.60; Minnesota patents \$4.45@5.15; Minnesota rye mixture \$3.25@3.75; superfine \$2.05@2.50. The minor lines were unchanged and featureless. A Minneapolis dispatch dated March 13 says: The flour output last week was 118,850 barrels. The export shipments last week amounted to 27,300 barrels. The output of February was 669,945 barrels larger than in 1889. For the six months ending February 28, 3,676,000 barrels were ground, against 3,007,000 barrels for the same period last year.

BUFFALO MARKETS.

WHEAT—There was a good deal of selling to-day, and at higher prices. Sales of 10,000 bushels of No. 1 hard were made at 89½c., 19,000 bushels at 89½c., and some at 90½c. and 90c. No. 1 Northern sold at 88½c. 89c., No. 2 do at 84½c., and 10,000 at 84½c., and 15,000 bushels at 84½c. CORN—No. 3 yellow is quoted at 34c. No. 4 do sold at 33c., and No. 4 corn at 32½c. Some was sold to arrive at 31½c. OATS—No. 2 white oats are held at 27¢ 27½c., and No. 2 mixed are held at 25½¢ 26c. The market is firm at these quotations. RYE—There is no change in prices. Quotations remain at 51c for No. 2. BARLEY—There is more inquiry and less disposition to force sales. No. 1 Canada is quoted at 65¢ 67c., No. 2 at 58¢ 60c., No. 3 at 52¢ 54c., extra No. 3 at 55c., and Western at 40¢ 48c. OATMEAL—Akron, \$6.00; Western, \$5.75 per bbl.; rolled oats, in cases, 72 lbs., \$3.25. CORNMEAL—Coarse, 80¢ 85c.; fine, 85¢ 90c.; granulated, \$1.50 per cwt. MILLFEED—City-ground coarse winter, \$13.50@14.00 per ton; fine do. \$14.50@15.50; finished winter middlings, \$15.00@15.50; coarse spring do., \$18.00@19.50.

FLOUR MARKET.

Spring Wheat.		Winter Wheat.	
Patents.....	\$5.50@6.00	Patents ..	\$4.75@5.25
Straight.....	4.50@5.00	Straight.....	4.25@4.75
Bakers.....	3.50@4.00	Clear ..	3.75@4.25
Red Dog ..	2.25@2.75	Low grades ..	2.50@3.00

Retail prices 50c per bbl above these quotations. Buckwheat flour \$1.40@1.75 per 100 100 lbs.

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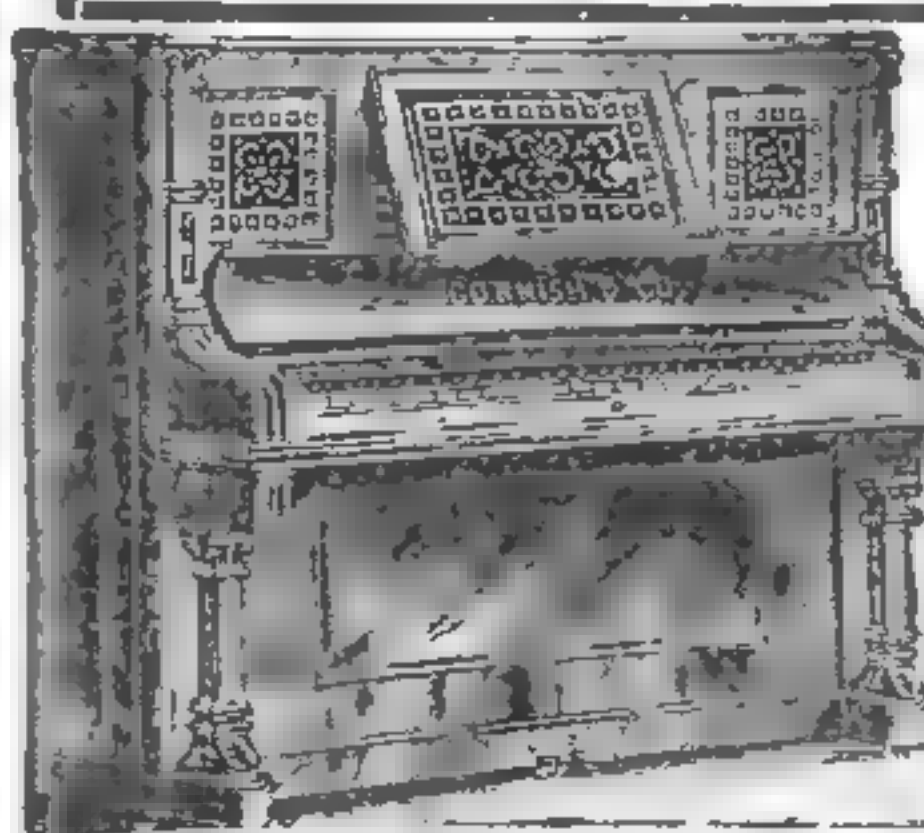
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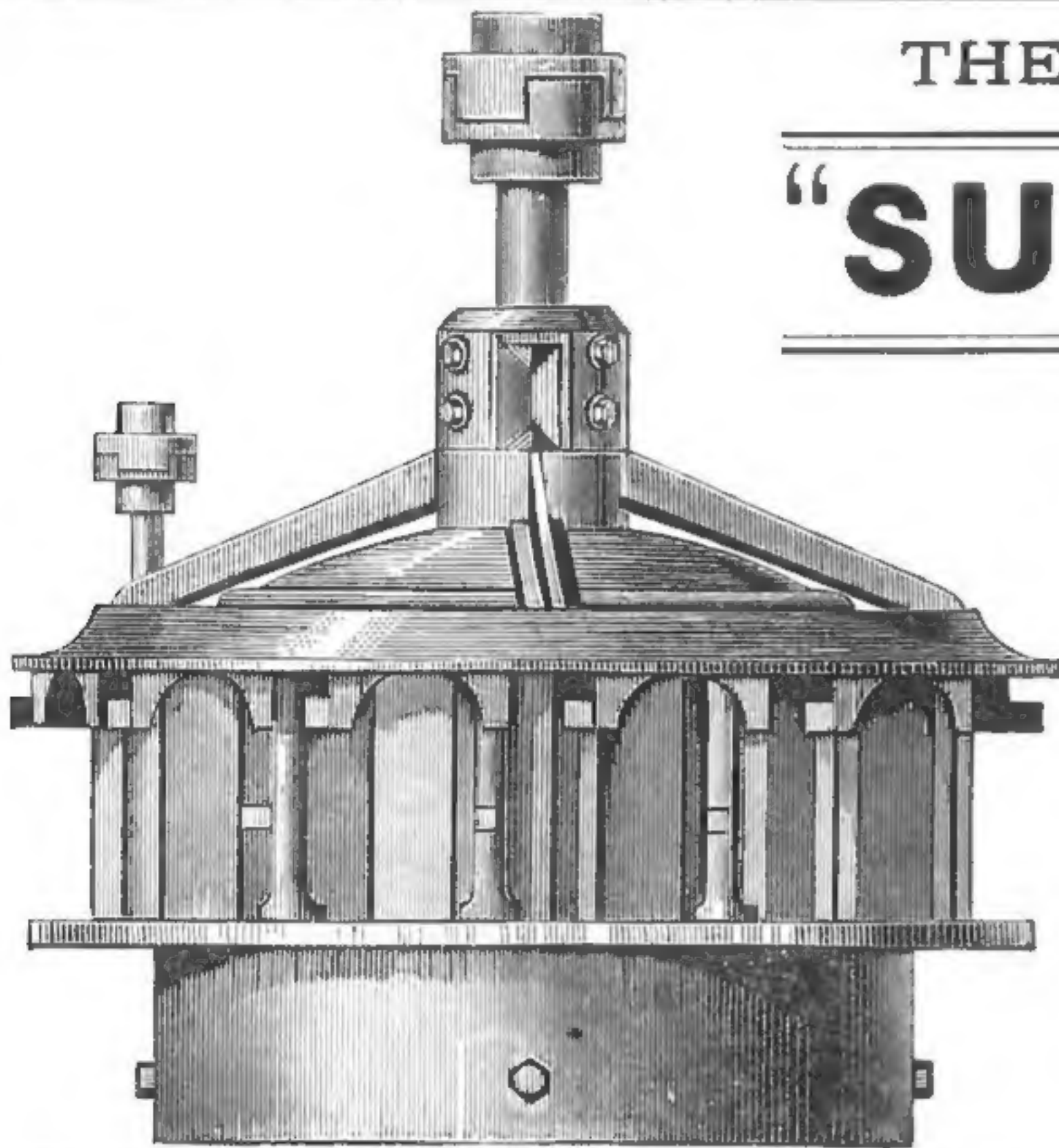
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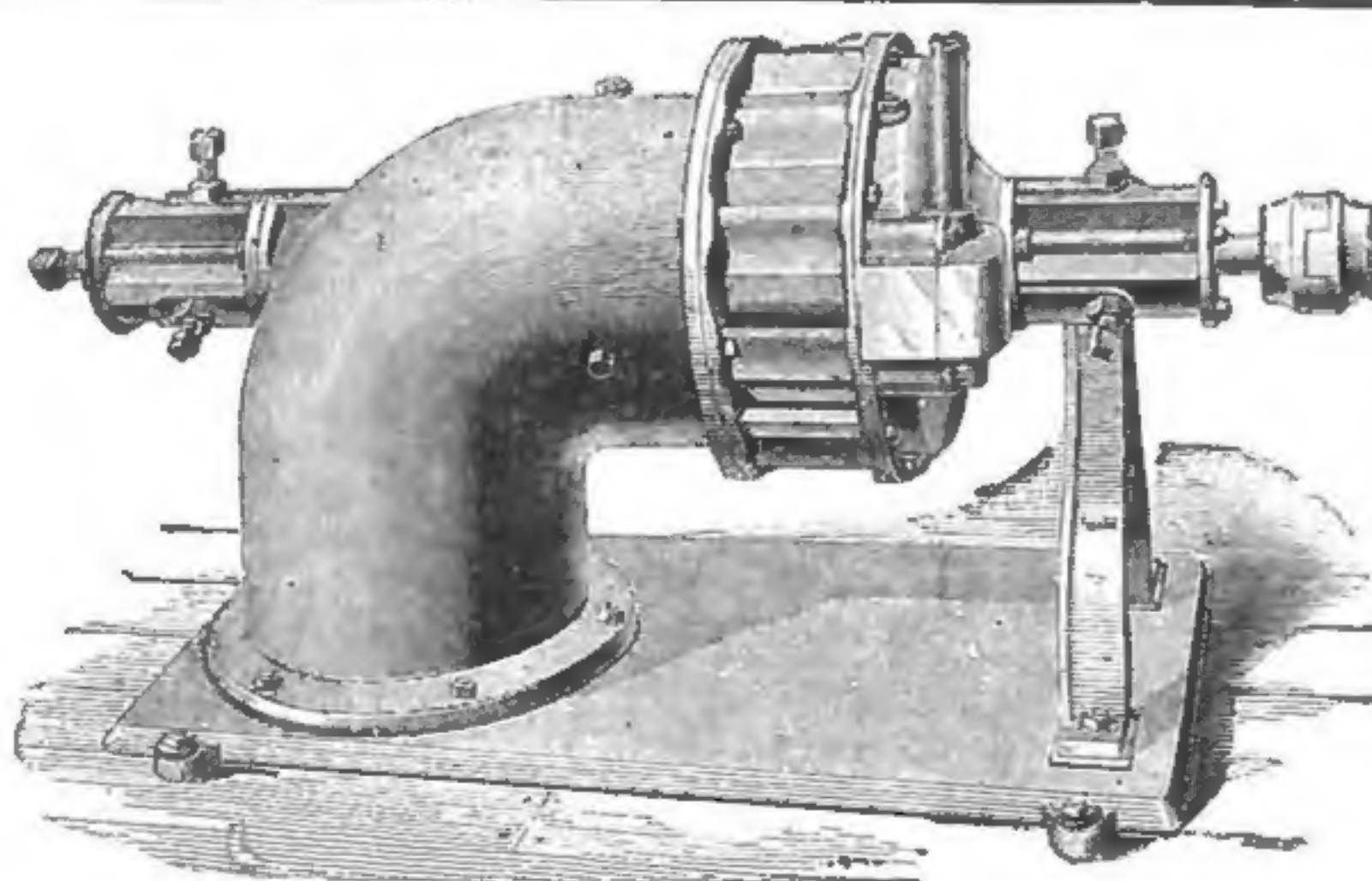
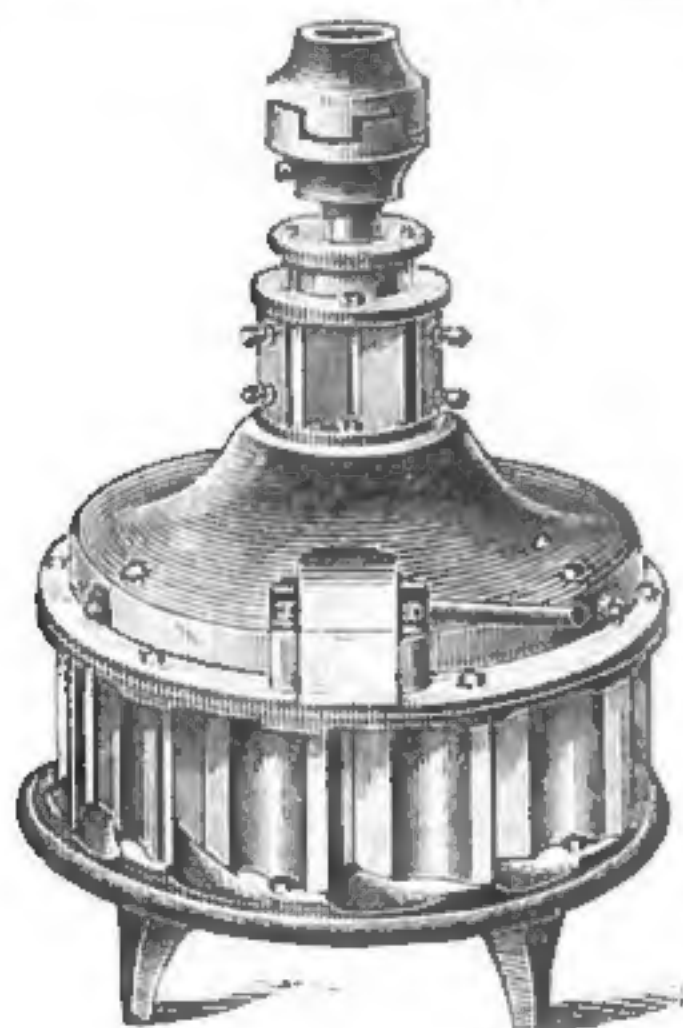
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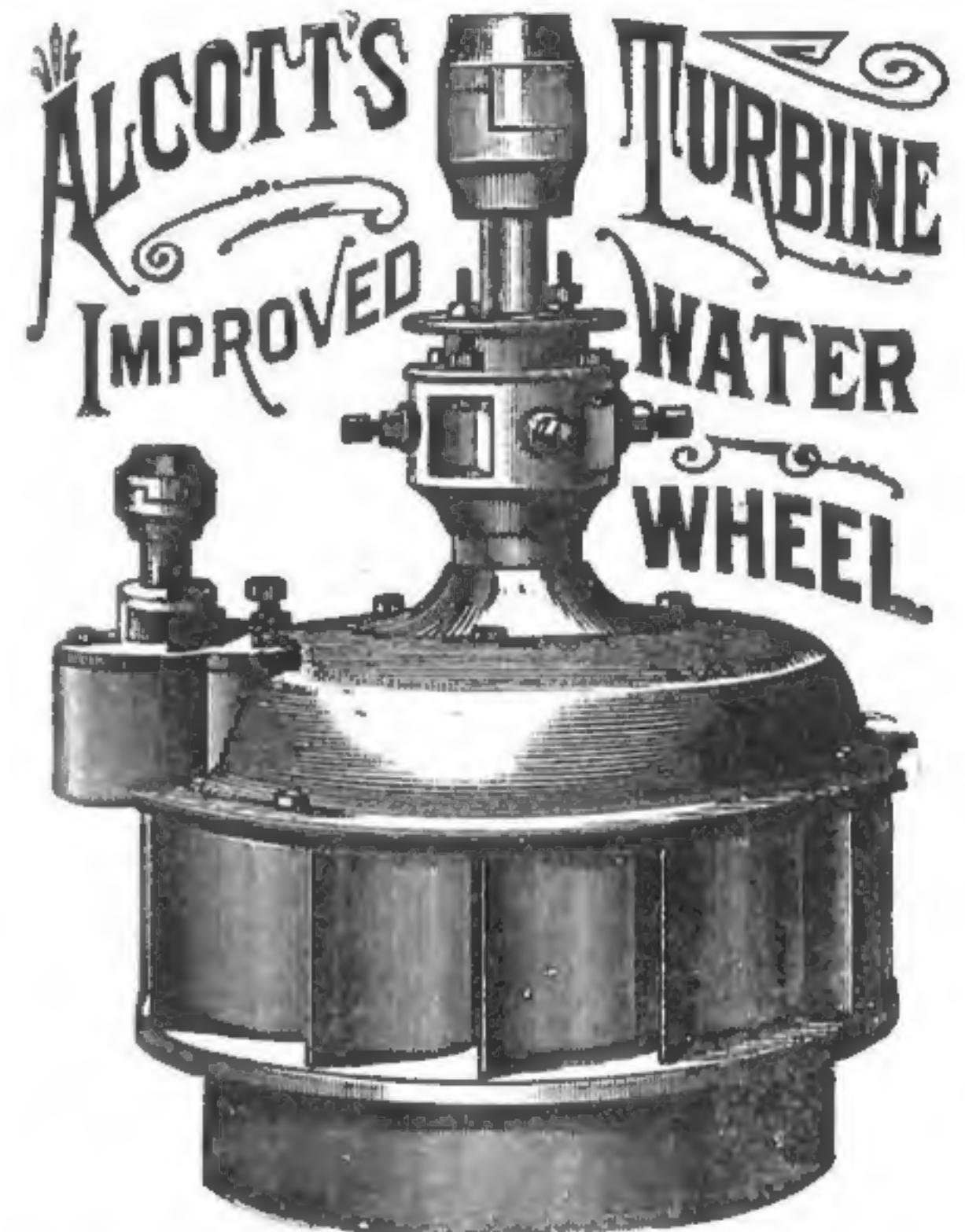
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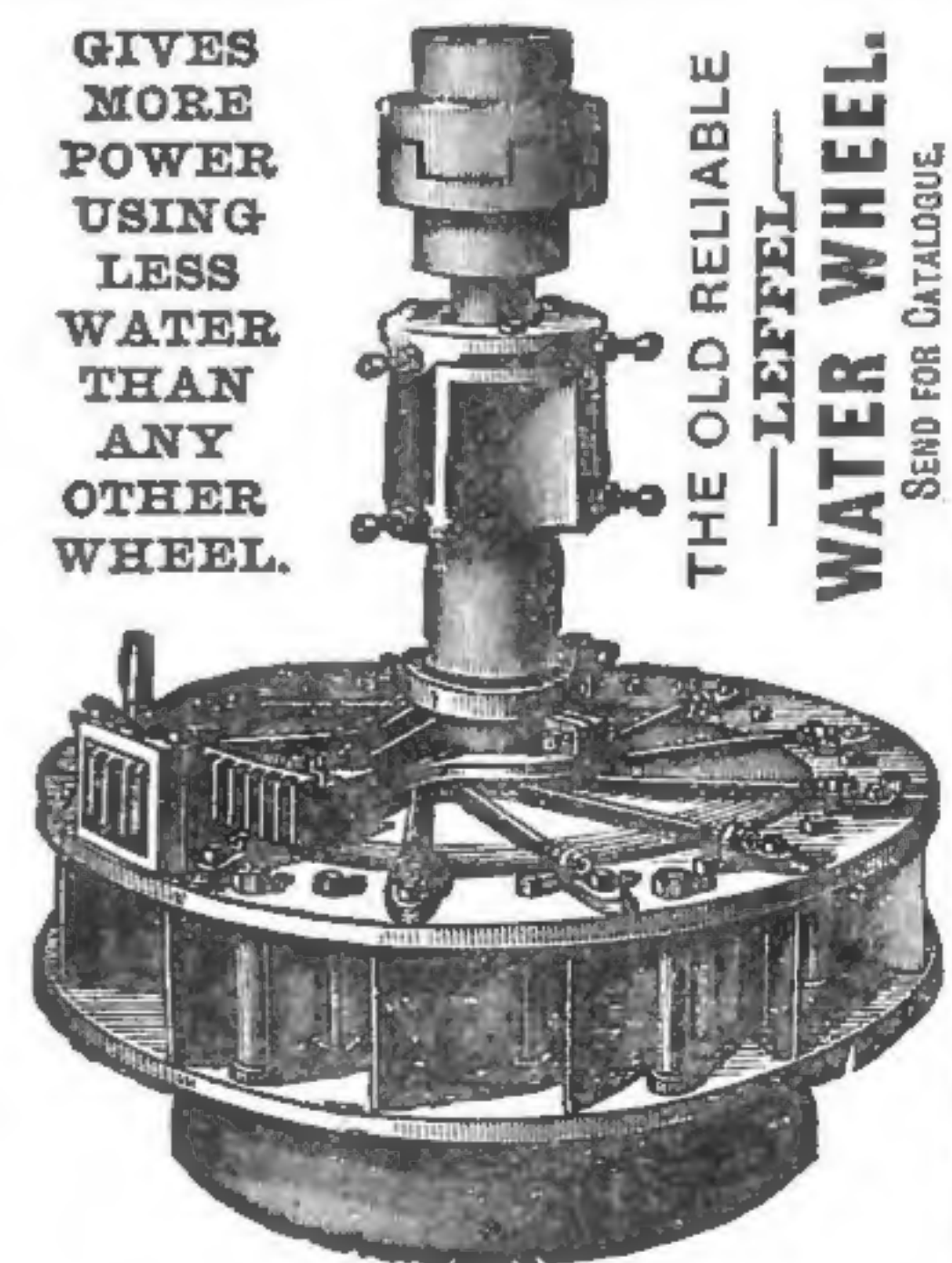
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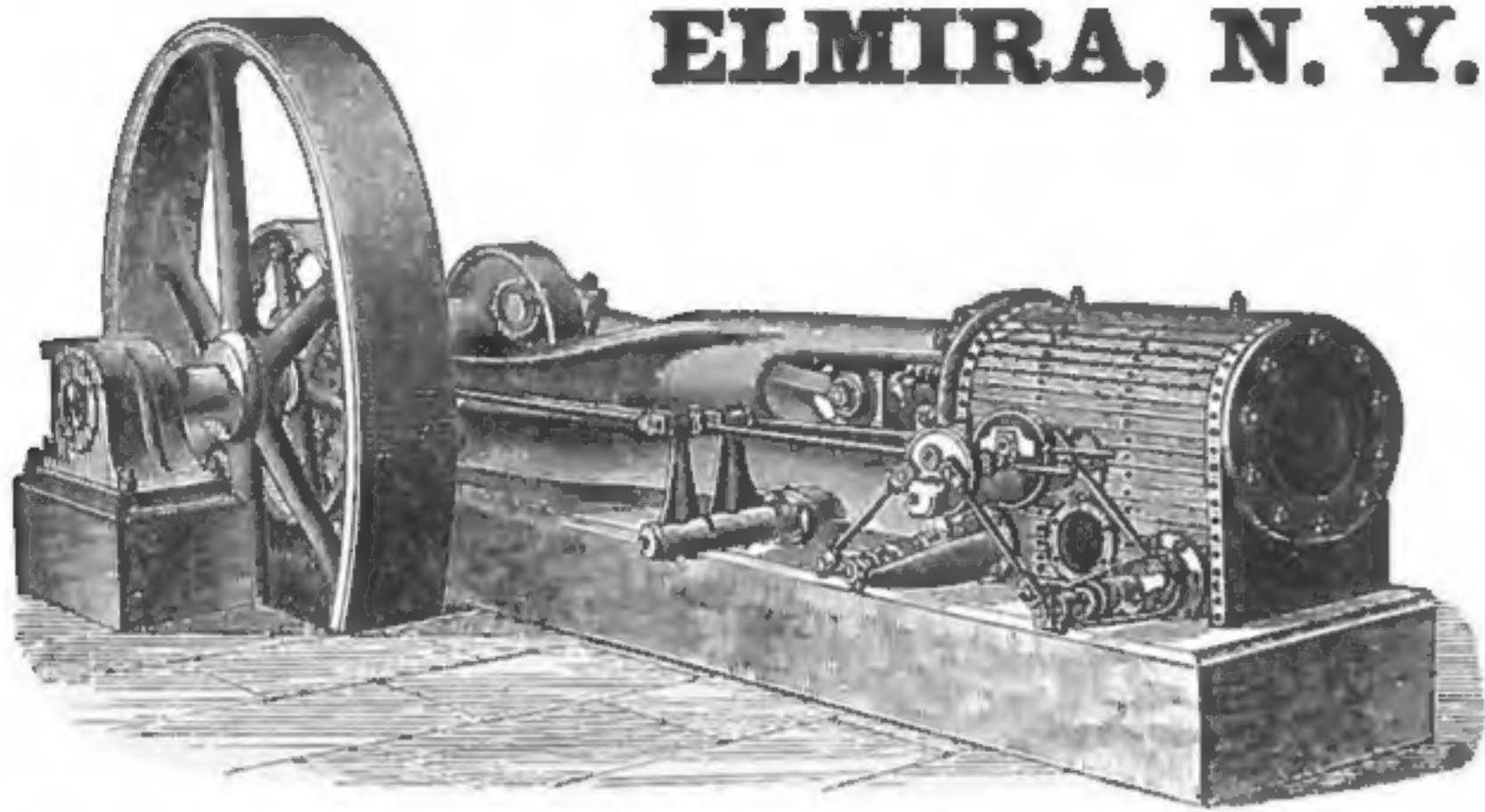
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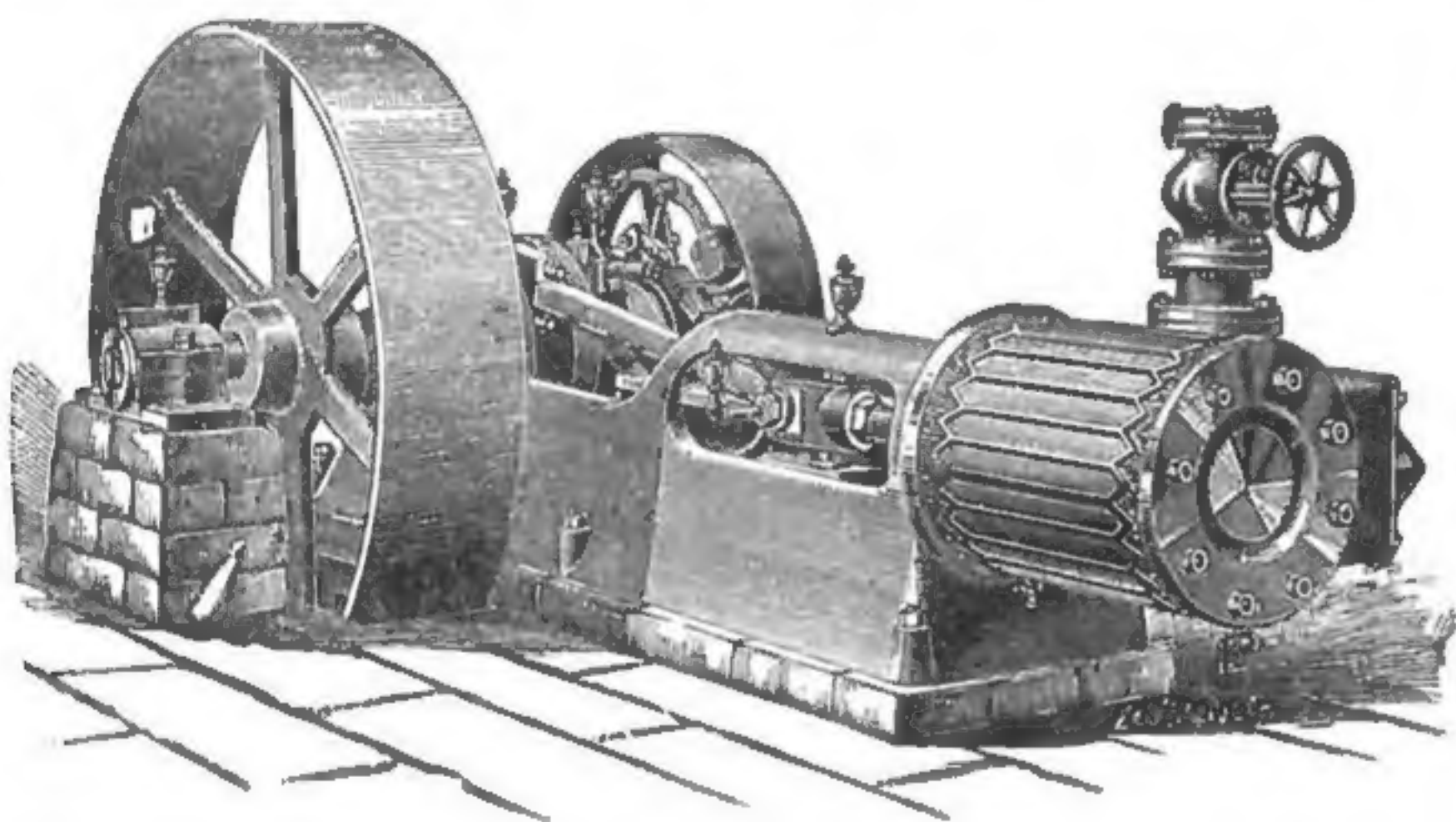
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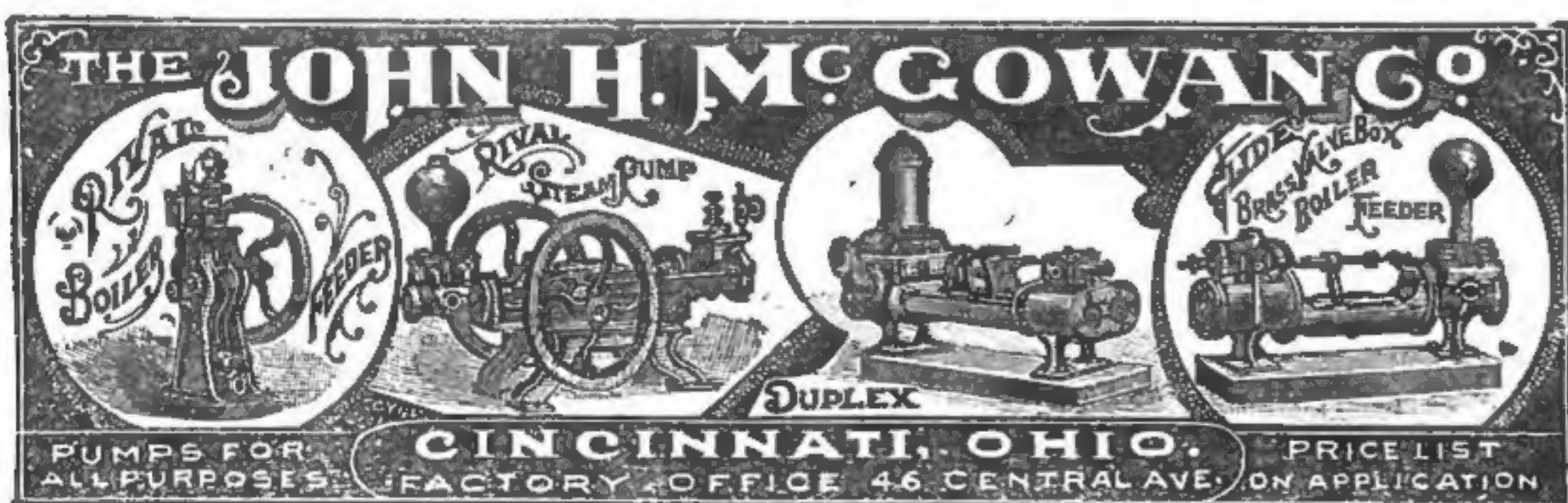
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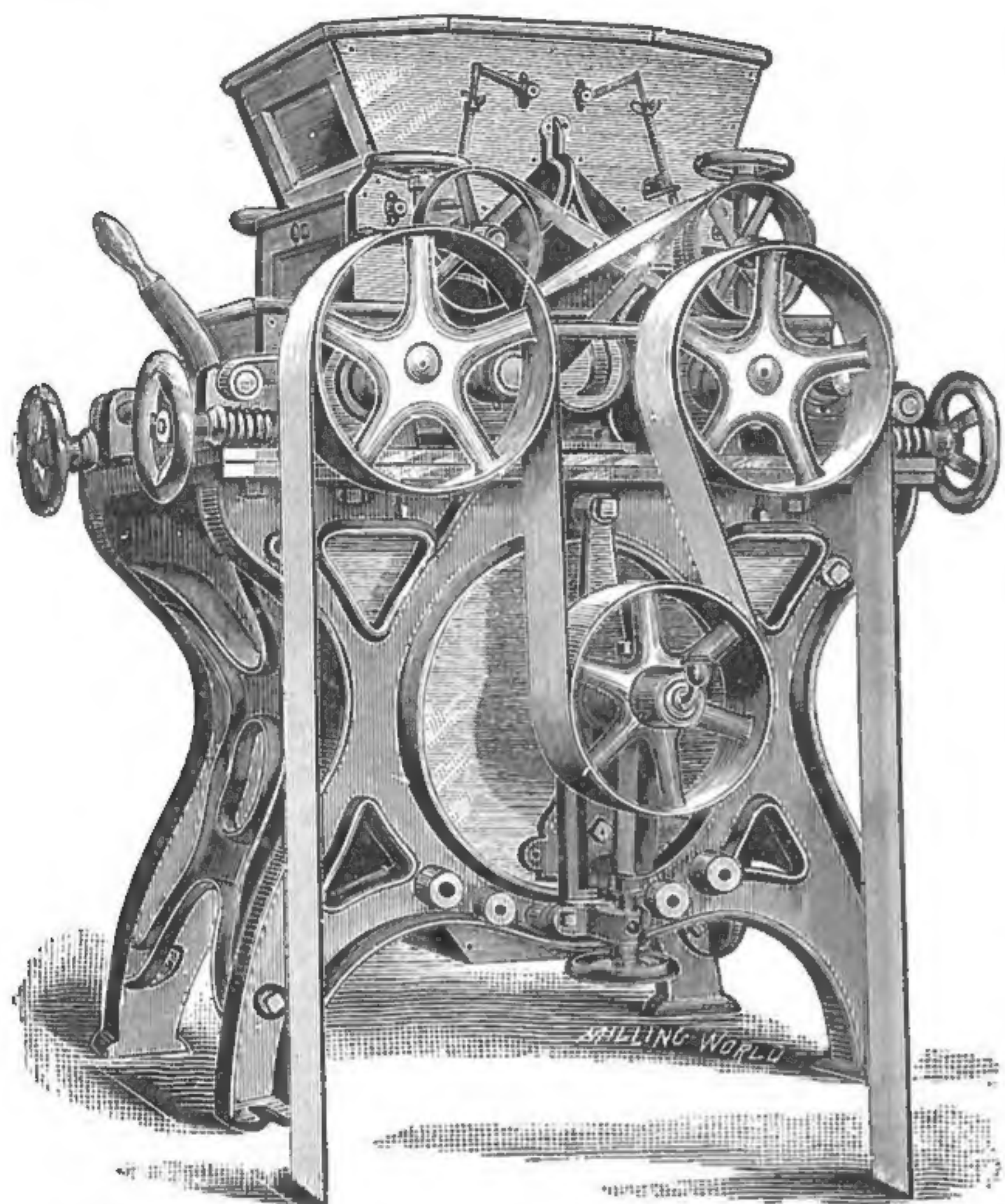


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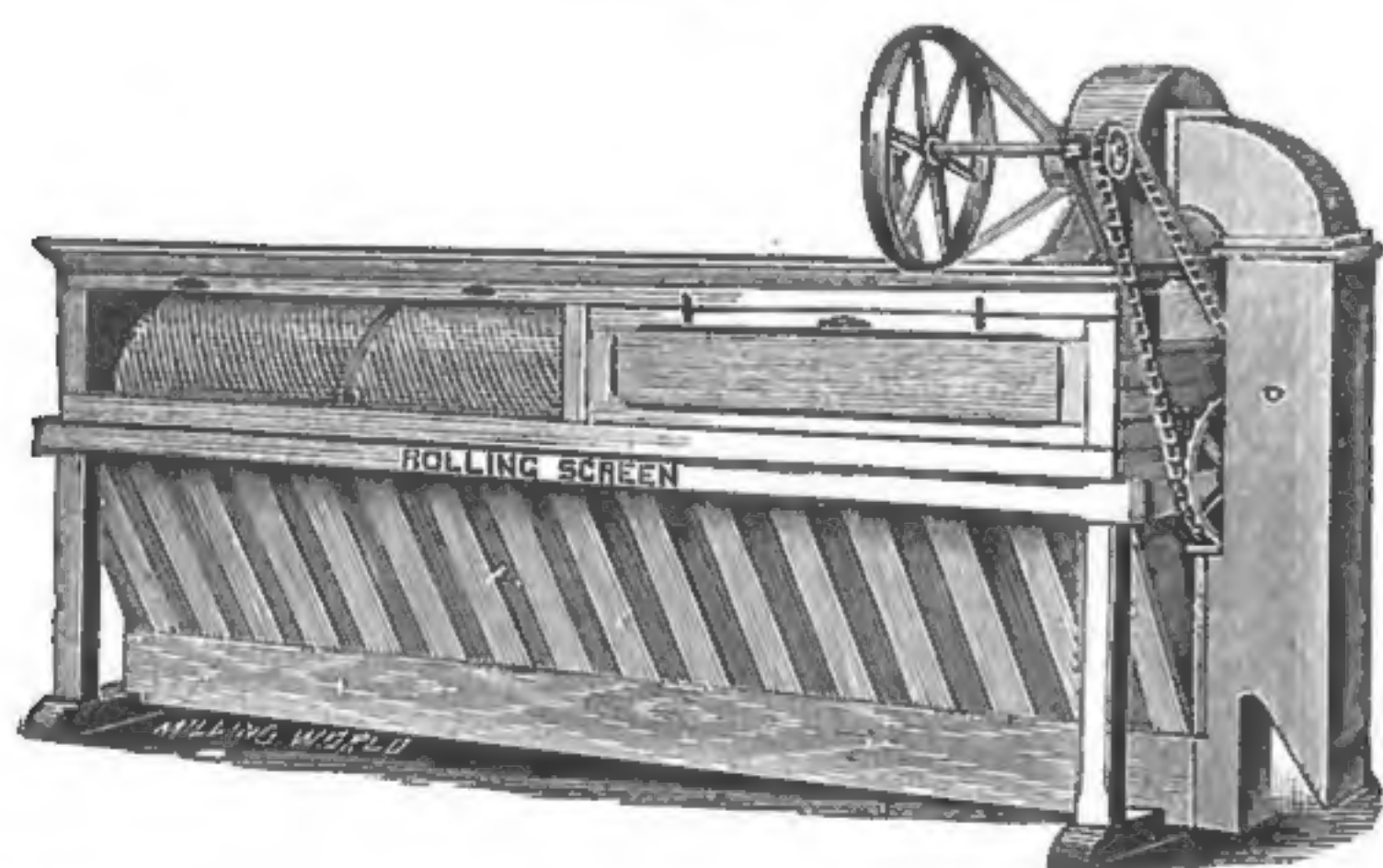
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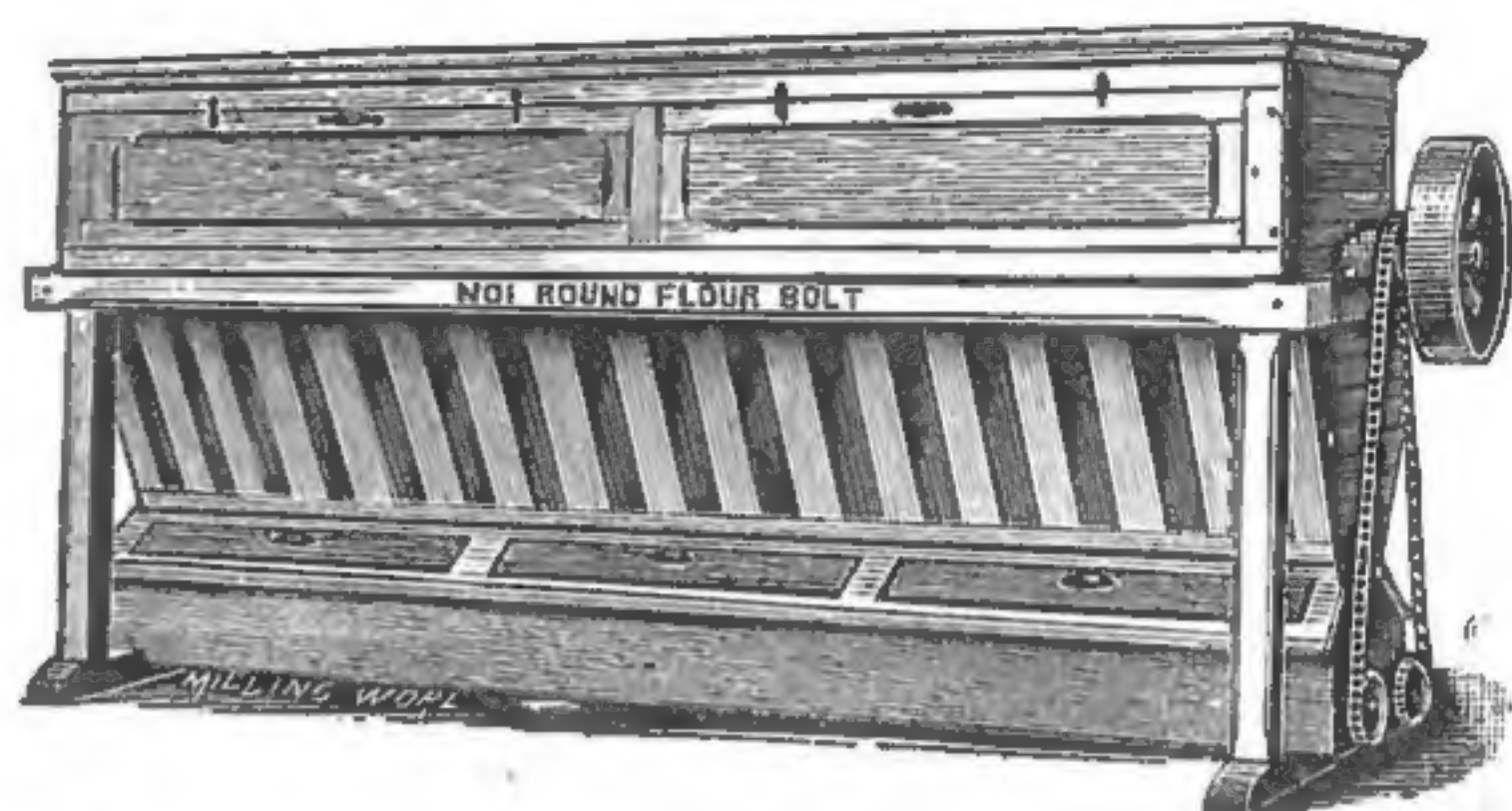
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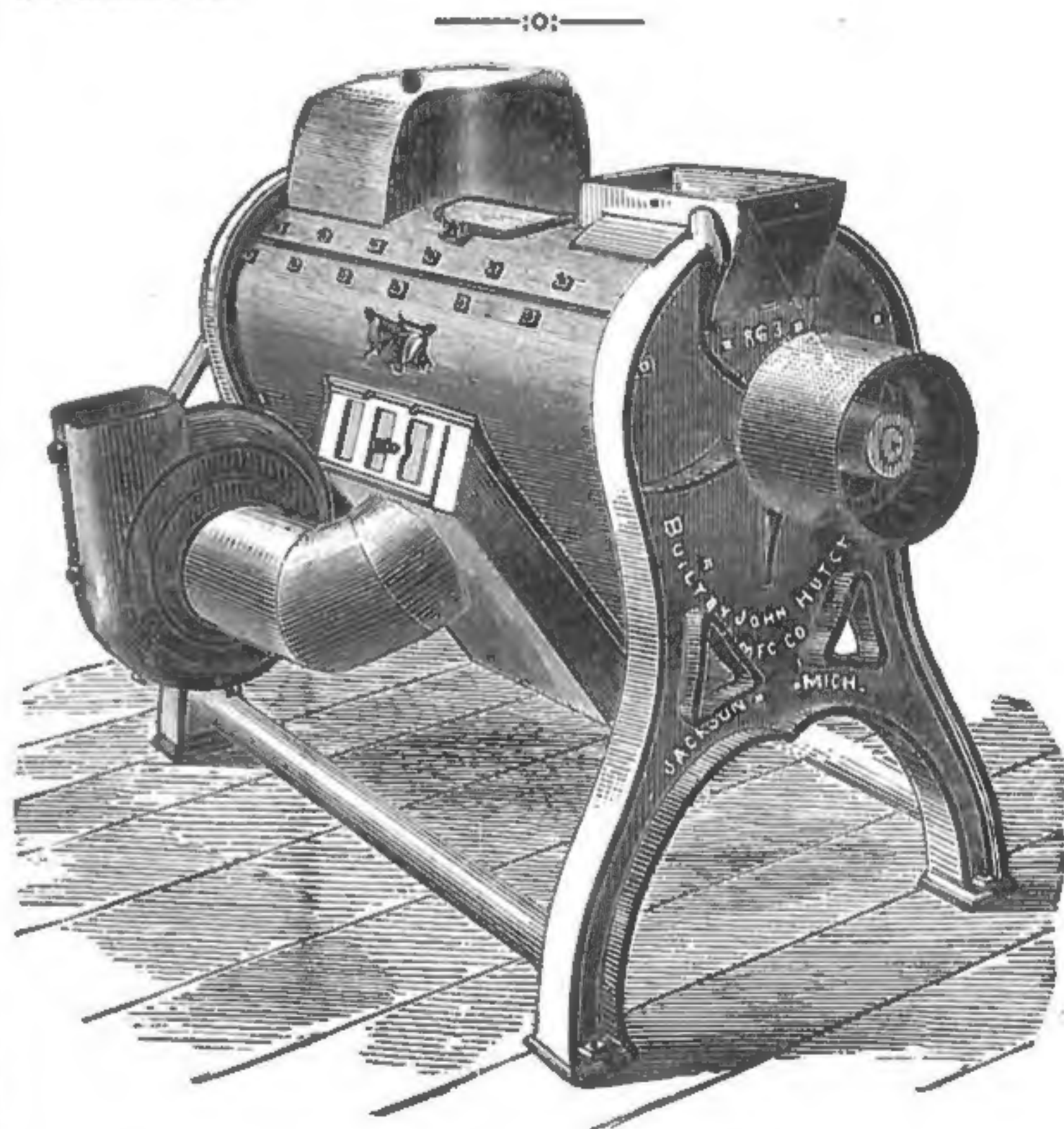


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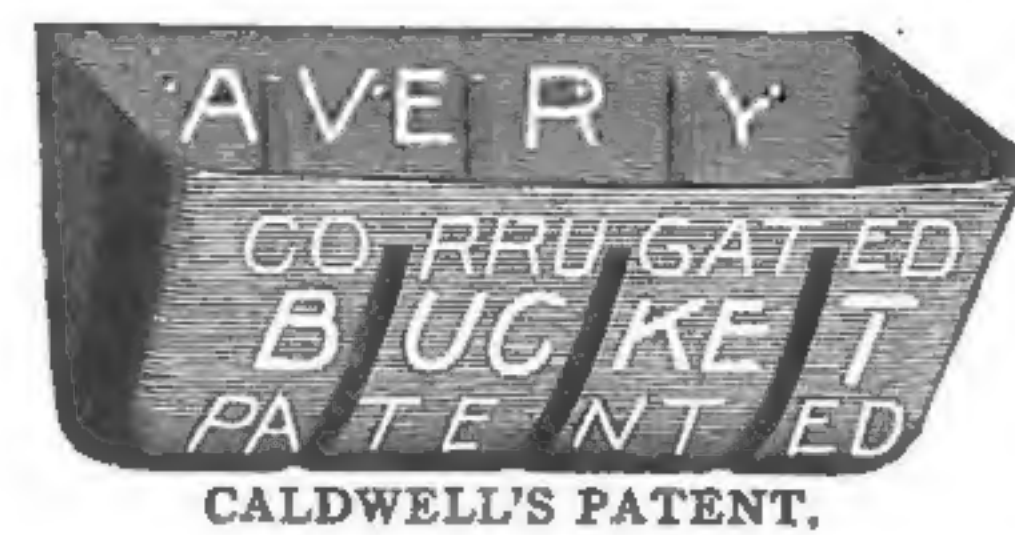
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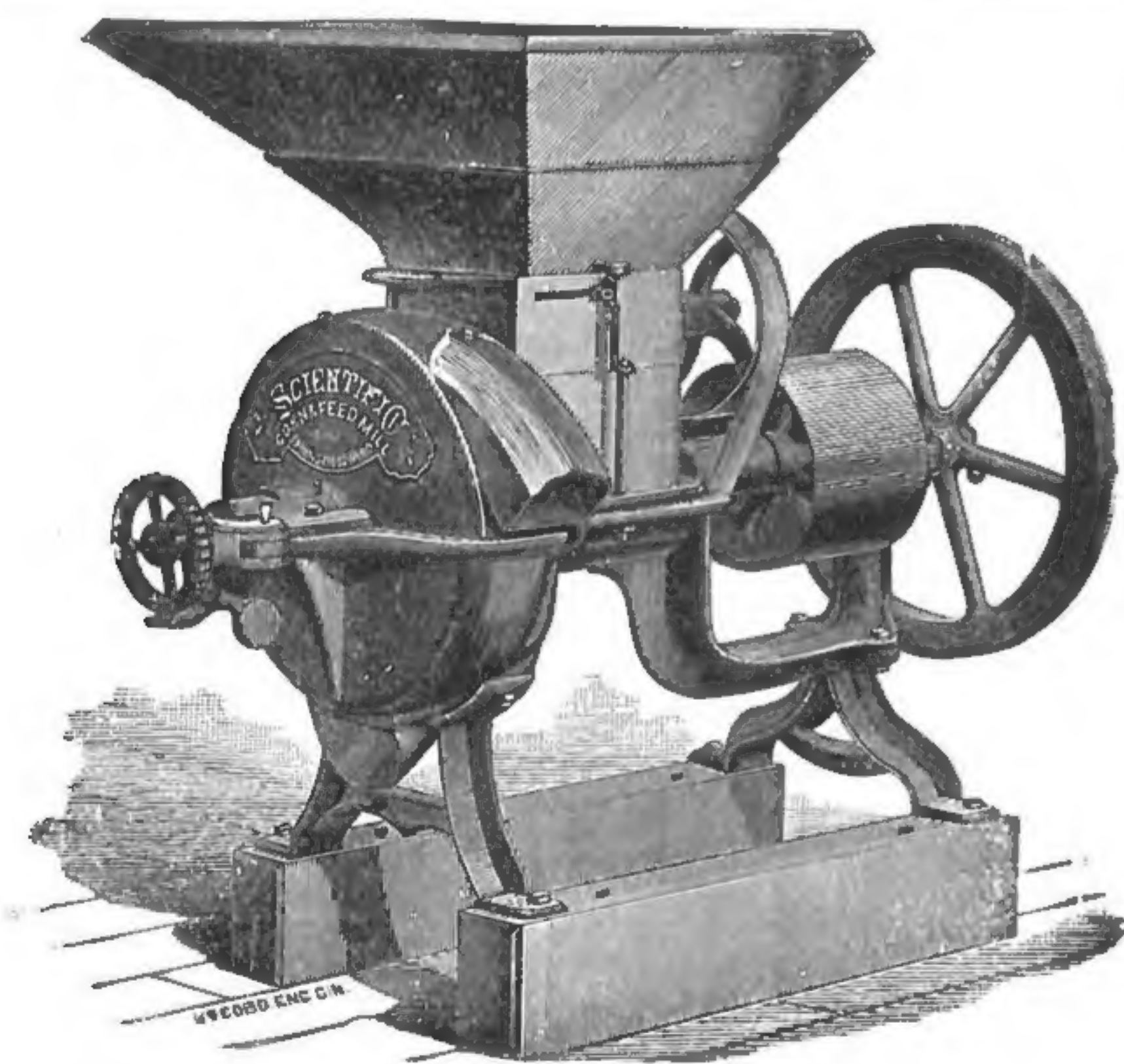
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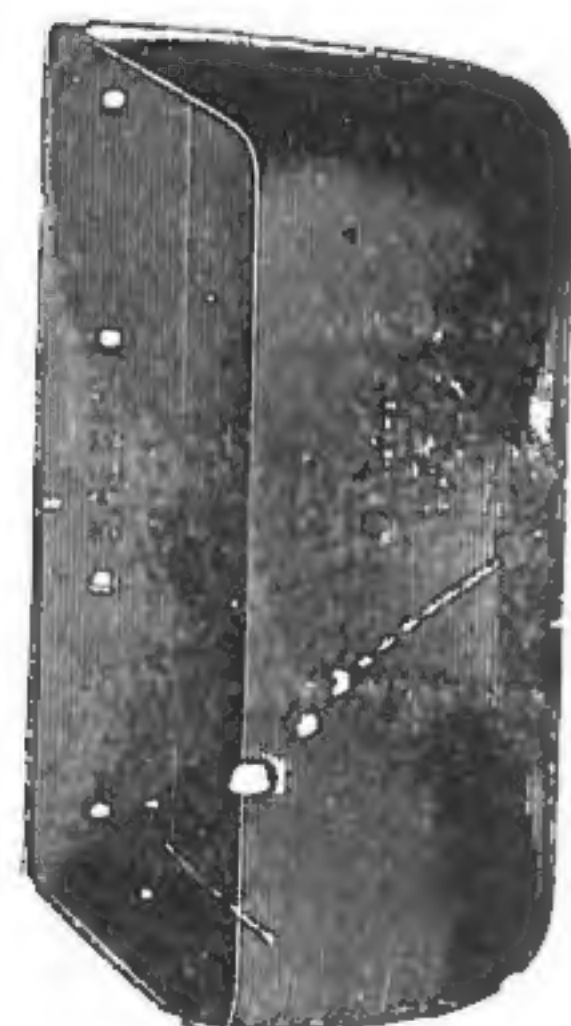
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